No. 18-1199

In The
Supreme Court of the United States

INVESTPIC, LLC,

Petitioner,

v.

SAP AMERICA, INC.,

Respondent.

On Petition For A Writ Of Certiorari To The United States Court Of Appeals For The Federal Circuit

BRIEF OF *AMICI CURIAE* US INVENTOR, JAY WALKER, GARY SHUSTER, LAWRENCE GLASER, SEED IP LAW GROUP LLP, SUTTON MAGIDOFF LLP, ARIE MICHELSON, GEORGE GRAFF, ANDREW RAMER, AND STEVENS LAW GROUP IN SUPPORT OF PETITIONER

STEVEN W. SMYRSKI
SMYRSKI LAW GROUP, A P.C.
3310 Airport Ave., SW
Santa Monica, CA 90405
(310) 397-9118
steve@smyrski.com

Counsel for Amici Curiae

COCKLE LEGAL BRIEFS (800) 225-6964
WWW.COCKLELEGALBRIEFS.COM

TABLE OF CONTENTS

TABLE OF AUTHORITIES

TABLE OF AUTHORITIES – Continued

TABLE OF AUTHORITIES – Continued

Page

INTERESTS OF *AMICI CURIAE*[1]

Amicus curiae US Inventor (USI) is a non-profit organization dedicated to helping the innovators of tomorrow. USI teaches, promotes, and defends the invention process and business methods involved in developing an idea, making a profit, and changing lives, in this case as an *amicus curiae*.

Amicus curiae Jay Walker is a named inventor on more than 450 issued and pending patents and applications. Mr. Walker founded Priceline.com, a travel-industry public company, and Synapse, a credit-card processing network, and is chairman of Walker Digital, a privately-held research and development laboratory that has invented hundreds of business problem solutions, particularly around large-scale networks.

Amicus curiae Gary Shuster is a named inventor on more than 180 issued United States patents. Mr. Shuster's patents cover distributed computing, identity theft prevention, encryption, copyright enforcement, e-mail authentication, and geolocation, among others. Mr. Shuster graduated from Harvard Law School and represents Fortune 50 companies and technology start-ups.

---

[1] Pursuant to Supreme Court Rule 37.6, counsel for *amici* certify that no counsel for a party authored this brief in whole or in part, and no counsel or party made a monetary contribution intended to fund the preparation or submission of this brief. No person other than *amicus* made such a monetary contribution. The parties have been given at least ten days' notice of *amici curiae*'s intention to file this brief and both parties have consented to the filing.

Amicus curiae Lawrence Glaser is a prominent inventor, having received over forty United States patents. Mr. Glaser is the founder of ViraLogix, developing inventions dealing with infectious and oncogenic/oncologic disease, and of Fortran Electric, developing inventions in low, medium and high voltage, security, communications, integration and custom programming.

Amicus curiae Seed IP Law Group LLP is a Pacific Northwest intellectual property law firm with over fifty patent attorneys. The firm provides legal services to innovative companies and inventors on their patents, trademarks, copyrights, trade secrets, and technology-commercialization strategies.

Amicus curiae Sutton Magidoff LLP is an intellectual property boutique law firm with patent attorneys representing clients in diverse industries in matters related to IP licensing, technology transfers and joint ventures, patent preparation and prosecution, and complex IP litigation.

Amicus curiae Arie Michelson is a patent and litigation attorney and entrepreneur. Dr. Michelson founded Lion Legal Products, a legal technology company, and LexLab.io, an online work-space environment for lawyers. Dr. Michelson is a Caltech Ph.D., graduate of the George Washington University Law School, a former patent examiner, and a former law clerk at the U.S. Court of Appeals for the Federal Circuit.

Amicus curiae George Graff is an arbitrator and mediator on intellectual property matters and is a member of the New York Academy of Mediators and Arbitrators. Mr. Graff has forty years of experience in dispute resolution, litigation, International Trade Commission investigations, and appeals relating to the ownership, licensing, and acquisition of intellectual property rights.

Amicus curiae Andrew T. Ramer has been a founder and executive at numerous technology and IP-focused companies. He is the co-founder and CEO of Marqera Corporation, a global IP trading company, was President of Ocean Tomo Auctions, LLC, acted as Managing Director of the IP Division at Cantor Fitzgerald, and led Motorola's venture capital arm.

Amicus curiae Stevens Law Group is an Intellectual Property law firm focused on preparation and prosecution of applications for patents, patent reexaminations, patent licensing, and patent infringement litigation. Its software services surround technologies such as user interfaces, big data, signal processing, communications, virtual reality, video games, and signal processing.

In the instant case, Petitioner has discussed the error of the Federal Circuit's ruling and analyzed the "physical realm/non-abstract application realm" test as well as the uncertain state of patent eligibility determination justifying this Court's intervention. *Amici* agree with Petitioner that the determination of patentable subject matter under 35 U.S.C. § 101 since the

Alice case injects significant uncertainty in the patent system, frustrating the ability for inventors to obtain protection for their valuable innovations, particularly innovations in the field of computer science. *Amici* are concerned that application of the "physical realm/non-abstract application realm" requirement would effectively abolish protection for a significant number of, or possibly all, inventions in the area of computer science, a conclusion in clear conflict with precedents set by this Court and the Federal Circuit. This "physical realm/non-abstract application realm" requirement demonstrates the problems inherent in leaving such assessments to different judicial panels and administrative agencies such as the United States Patent and Trademark Office to determine what is and is not patentable subject matter without clear overriding guidance. The case below provides a clean vehicle for clarifying the definition of an "abstract" idea in this technological context, namely the protectability of inventions in part or in whole in the field of computer science, and the applicability of the "physical realm/non-abstract application realm" test, as the definition of what is "abstract" and thus ineligible for patent protection was dispositive of Petitioners' claim.

SUMMARY OF ARGUMENT

The 2014 *Alice* decision by this Court held that claims to a system facilitating the exchange of financial obligations between two parties by using a computer system as a third-party intermediary were

"abstract," but declined to delineate subject matter that was and was not "abstract."

The *Alice* opinion, and decisions from the Federal Circuit and lower courts thereafter, have injected a significant level of uncertainty into the patent system. Specifically, the question of what is patentable and what is not, or more specifically what is "abstract" and what is not, remain unclear and may be even more unclear than they were at the time this Court decided *Alice*.

Persons who conceive of innovative ideas, including scientists, engineers, academics, and other inventors, benefit from a robust patent system, one wherein a level of certainty is assured. The uncertainty that has developed in the years since *Alice* has caused a number of adverse results: with uncertainty as to whether patent claims to a particular invention are "abstract," investors are inclined not to invest in promising but expensive technologies, companies are unwilling to dedicate capital to research and development, inventors are not hired to invent, the risk and cost of litigation increases and is in many cases unthinkable, and fewer inventors can justify the time and effort required to submit a patent application on their innovations. Uncertainty in the patent system impedes the advancement of technology, and as a result of such uncertainty, fewer novel and societally beneficial inventions come into existence.

In the five years since *Alice* issued, the Federal Circuit, district courts, and the United States Patent

and Trademark Office have each attempted to adjudicate the question of patentable subject matter according to the principles articulated in this Court's *Bilski*, *Mayo*, and *Alice* decisions. These efforts have led to a series of decisions that are inconsistent and can depend on the Examiner, judge, or judicial panel assigned to the case. Inconsistency in decisions is prevalent, and one body, such as a patent Examiner, may apply the guidance and laws as understood and come to a conclusion that a patent claim is valid, while a second entity, such as a Federal Circuit judicial panel, may come to a completely different conclusion.

The underlying case adds another hurdle that must be cleared by an applicant or patentee: satisfaction of the "physical realm" or "non-abstract application realm" test is necessary for an invention to be considered protectable. Such a requirement arguably obviates any and all advancements in or relating to the field of computer science, despite the clear rulings of this Court and the Federal Circuit that computer software is not always unpatentable. *Bilski v. Kappos*, 561 U.S. 593, 605 (2010). Further, the holding in the case below adds more confusion to the inquiry; if an "abstract" idea is not defined, how can one know when a patent claim has transitioned to the "non-abstract" application realm? The result is a haphazard application of the standard in reviewing patent claims, an "I know it when I see it" analysis applied by patent Examiners, Patent Trial and Appeal Board judges, district court judges, and Federal Circuit judges, each of whom may

have a different opinion regarding the eligibility of a particular patent claim.

Both the United States Patent and Trademark Office and lower courts have had difficulty implementing the patentable subject matter analysis from this Court and the Federal Circuit. In some USPTO Group Art Units, rejection rates in excess of 90% have occurred, and "abstract" rejections grew from 25% to over 75% in some art units after issuance of the *Alice* decision. Patent examiners, without clear guidance as to what was "abstract," began finding a great many claims "abstract." Lower courts have, as of 2018, been invalidating claims based on subject matter considerations at a rate of about 60% by one estimate.

The United States Patent and Trademark Office has attempted to address patentable subject matter eligibility issues by promulgating a set of Guidelines that takes this Court's precedent and seeks to clarify the second part of the two-part test articulated in *Alice*. Such efforts are admirable. However, the Federal Circuit has made at least one statement in a recent nonprecedential opinion stating that the Federal Circuit is "not bound" by Guidelines provided by the USPTO, adding a further layer of uncertainty to the process. *Amici* are concerned that a novel, useful, and nonobvious computer science-related innovation, for example, may be claimed in a manner that is found acceptable under the 2019 USPTO Guidelines, only to see that claim struck down in the lower courts or Federal Circuit after years of costly and time-consuming litigation.

What is needed is clear, overarching guidance as to what is and is not patentable, such as guidance expanding on this Court's decisions in *Bilski*, *Mayo*, and *Alice*, that decreases the likelihood that different tribunals or adjudicators will render different decisions as to the "abstract" nature and eligibility of different patent claims, particularly in the areas of computer science and computer technology.

ARGUMENT

A. What is "Abstract?" The Issue Presented by the *Alice* Decision

35 U.S.C. § 101 addresses the subject matter eligible for patent protection:

> 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.

35 U.S.C. § 100(b) defines the term "process" as a "process, art, or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material."

Courts have created certain exceptions to 35 U.S.C. § 101 not expressly articulated in the statute. "We have long held that this provision contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable."

Ass'n for Molecular Pathology v. Myriad Genetics, Inc., 569 U.S. 576, 589 (2013) (internal quotation marks and brackets omitted).

In 2014, this Court decided the case of *Alice Corporation Pty. Ltd. v. CLS Bank International*, 573 U.S. 208 (2014). The *Alice* case addressed the patentability under 35 U.S.C. § 101 of patent claims drawn to a system facilitating the exchange of financial obligations between two parties by using a computer system as a third-party intermediary. 573 U.S. at 208. *Alice* issued approximately four years after *Bilski v. Kappos*, wherein this Court addressed claims drawn to a procedure for instructing buyers and sellers how to protect against the risk of price fluctuations in a discrete section of the economy. 561 U.S. at 598. This Court held both the *Alice* and *Bilski* claims to be "abstract" and thus invalid. *Alice*, 573 U.S. at 218; *Bilski*, 561 U.S. at 609.

Of great importance to many scientists, engineers, academics, and other inventors, as well as their employers and investors, was: if the *Alice* and *Bilski* claims were abstract and thus patent ineligible, what claims were abstract and what claims were not? This Court made the following statement on this question:

> [W]e 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.

Alice, 573 U.S. at 221.

As a result, scientists, engineers, academics, and other inventors, their representatives, as well as lower courts and the United States Patent Office, were left without clear guidance as to what was and what was not "abstract."

This Court did articulate a test to determine whether a claim would be patent eligible under 35 U.S.C. § 101: first, one determines whether the claims at issue are directed to a patent-ineligible concept. If the claims are directed to a patent-ineligible concept, one examines the elements of the claim to determine whether it contains an "'inventive concept'" sufficient to "transform" the claimed abstract idea into a patent-eligible application. *Alice*, 573 U.S. at 221 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 72, 80 (2012)).

Even with this two-part test, scientists, engineers, academics, and other inventors had no clear guidance as to what constituted an abstract claim. The Court's characterization of the *Alice* and *Bilski* claims as abstract certainly applied to those particular claims, but inventors and their representatives were left to wonder whether other claims, contemplated, on file, and/or issued, were "abstract" as a result of their similarity to the claims of *Alice* and *Bilski*, or were patent eligible.

Following *Alice*, was every claim to a computer-based programming method abstract? Was a claim covering a device that performed a series of programmed functional steps abstract? Was a claim reciting a method including a series of programmed functional steps abstract? What could and could not be patented?

B. Inventors, Inventions, Patents, and the Patent System Have Been, and Remain, Vital to the United States Economy

The ability for inventors to protect their inventions is based on the language of Article I, Section 8 of the U.S. Constitution ("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.").

Patents have historically been vitally important to the economy of the United States, and patent protection, specifically the ability of an inventor to protect his or her idea by a patent, has encouraged innovation and created numerous economic benefits. *See*, *e.g.*, Hon. Maureen K. Ohlhausen, *Patent Rights in a Time of Intellectual Property Rights Skepticism*, 30 HARV. J. OF LAW & TECH. 103, 131 (2016) ("[V]oluminous evidence links stronger patents with greater R&D investment at the firm level and richer macroeconomic growth.").

Inventors benefit from their inventions in three primary ways. First, engineers, scientists, academics, and other inventors may be employed to invent

or otherwise solve problems or create new designs. Second, inventors can benefit by licensing patents covering their inventions. And third, inventors may litigate their patents to prevent others from making, using, or selling their inventions and may potentially recover monetary damages. Each of these avenues for profiting from the inventor's ideas requires a stable and predictable patent system. Without stability and predictability, invention ceases to be lucrative for inventors, their employers, investors, and potential licensees. Litigation becomes untenable, investment into new and expensive technologies decreases, and invention declines in the absence of a stable and predictable patent system. Uncertainty decreases the incentive to commit capital to new technologies and decreases the demand for inventors and inventions. The result is fewer inventions and fewer technological advances benefitting society.

Further, defending patents takes money and significant effort. If it is unclear whether a new idea is "abstract" or will be upheld in litigation as being patentable, the incentive to invent and patent decreases. Uncertainty as to the applicability of the "abstract" designation to an idea denies justice to inventors, startups, and/or investors by denying capital necessary to fund innovation efforts and provide access to the courts. If a patent is too risky to defend, the patent effectively loses its status as a property right and becomes incapable of securing investment. Without investment capital available, inventors and their employers lose the ability to commercialize new

technologies and/or defend their property rights. Uncertainty in the patent system thus takes away the incentive to fund innovations and the motivation to invent. Anecdotal evidence suggests that many small inventors in the U.S. have decreased or entirely stopped inventing and many have stopped filing patent applications.

A recent study evaluated whether recent patent eligibility cases have changed the behavior of venture capital and private equity firms. "Overwhelmingly investors reported that patent eligibility is an important consideration when their firms decide whether to invest in companies developing technology," with about 43% of respondents agreeing strongly with this sentiment.[2] Further, "59% [of respondents] agreed that their firms are less likely to invest given more difficulty obtaining patents, while only 22% disagreed."[3]

Uncertainty and the resultant lack of faith in the patent system leads to less investment in new technologies and materially harms the inventor community and society as a whole. Uncertainty and lack of faith in the patent system decreases investment in new technologies and the reaction is fewer innovations benefitting society.

---

[2] David O. Taylor, *Patent Eligibility and Investment*, CARDOZO L. REV. (forthcoming) (manuscript at 31), available at ssrn.com/abstract=3340937.

[3] *Id.* at 33.

C. The Years Following *Alice*: Challenges Remain, and Sometimes Increase

In the intervening years since the *Alice* decision, the Federal Circuit, district courts, and the USPTO have attempted to ascertain the existence of patentable subject matter in patent claims pursuant to the two-part *Alice* test, but to this day challenges and uncertainty remain. Criticisms of the patent eligibility standards and the application of the standards by the courts and USPTO are many:

> Labeling the *Mayo/Alice* two-step test as a "nightmare" and "hopelessly subjective and unworkable," [commentators] argued that it is untenable and creates unpredictability in the issuance and enforcement of patents. Several participants asserted that the problem with the two-step test is that it is a negative test. Others noted that the test fails to define crucial terms, such as "abstract" and "substantially more." Indeed, some commentators urged that "[i]t is impossible to define 'abstract idea' with sufficient certainty to serve as a legal standard for anything, let alone the important determination of whether an invention is patent eligible."
>
> Many members of the public argued that the two-part test provides an unworkable framework for the USPTO to make patent eligibility determinations with any reliability. They also observed that the new standard yields unpredictable results in courts, leaving the public unsure whether something patented today, will be patent eligible tomorrow.

> In short, commentators expressed concern that "the overall impact of recent rulings has been diminished clarity regarding patent eligibility, which results in confusion among patent-intensive industry sectors, individual inventors and innovators."[4]

Certain Federal Circuit judges have also expressed concern with this Court's subject matter eligibility jurisprudence. *See*, *e.g.*, *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1381 (Fed. Cir. 2015) (Linn, J., concurring) (finding claims ineligible while stating that "[b]ut for the sweeping language in the Supreme Court's *Mayo* opinion, I see no reason, in policy or statute, why this breakthrough invention should be deemed patent ineligible"); *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 809 F.3d 1282, 1287 (Fed. Cir. 2015) (Lourie, J., concurring in the denial of en banc rehearing) ("[I]t is unsound to have a rule that takes inventions of this nature out of the realm of patent-eligibility on grounds that they only claim a natural phenomenon plus conventional steps, or that they claim abstract concepts."). Judge Lourie also expressed skepticism as to the "abstract" label for computer software-based designs, stating "steps that involve machines, which are tangible, steps that involve transformation of tangible subject matter, or tangible implementations of ideas or abstractions should not be considered to be abstract ideas." *Id.*

---

[4] PATENT ELIGIBLE SUBJECT MATTER: REPORT ON VIEWS AND RECOMMENDATIONS FROM THE PUBLIC, U.S. PATENT AND TRADEMARK OFFICE 30 (July 2017) (footnotes omitted).

The brief of Petitioner lists a number of district court and Federal Circuit statements decrying the lack of predictability and reliability of decisions rendered in view of the intra-Federal Circuit split over the patentability of different types of processes. (Pet. Brf. at 32).

The United States Patent and Trademark Office has articulated its concerns with the uncertainty resulting from patent eligibility rulings. *See 2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50, 52 (Jan. 7, 2019) ("The legal uncertainty surrounding Section 101 poses unique challenges for the USPTO, which must ensure that its more than 8500 patent examiners and administrative patent judges apply the *Alice/Mayo* test in a manner that produces reasonably consistent and predictable results across applications, art units and technology fields.").

Seeking to address this "legal uncertainty," the USPTO issued a revised subject matter eligibility test that attempts to clarify step two of the test articulated in *Alice*. The Patent Office summarized its new Guidelines as follows:

> The 2019 Revised Patent Subject Matter Eligibility Guidance revises the procedures for determining whether a patent claim or patent application claim is directed to a judicial exception (laws of nature, natural phenomena, and abstract ideas) under Step 2A of the USPTO's Subject Matter Eligibility Guidance in two ways. First, the 2019 Revised Patent Subject Matter Eligibility Guidance explains that abstract ideas can be grouped as, e.g.,

> mathematical concepts, certain methods of organizing human activity, and mental processes. Second, this guidance explains that a patent claim or patent application claim that recites a judicial exception is not "directed to" the judicial exception if the judicial exception is integrated into a practical application of the judicial exception. A claim that recites a judicial exception, but is not integrated into a practical application, is directed to the judicial exception under Step 2A and must then be evaluated under Step 2B (inventive concept) to determine the subject matter eligibility of the claim.

2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. at 50.

The efforts of the United States Patent and Trademark Office in this regard are to be admired. However, § 101 examination by the Examining corps of the USPTO has been problematic for years. Patent examiners, without clear guidance as to what was "abstract," began finding a great many claims "abstract." Certain Group Art Units in the USPTO, particularly the software Group Art Units, rejected patent applications at rates above 90% as purportedly claiming "abstract" ideas.[5] Further, the USPTO has issued

[5] Colleen Chien, *The Impact of 101 on Patent Prosecution*, PATENTLYO (Oct. 21, 2018), patentlyo.com/patent/2018/10/impact-patent-prosecution.html (for Group Art Units 362X, 3661, 3664, 368X, 369X, "the 101 rejection rate grew from 25% to 81% in the month after the *Alice* decision, and has remained above 75% almost every month since then); Robert Sachs, *AliceStorm Update for Fall 2016*, BILSKI BLOG (Oct. 19, 2016), https://www.

guidance in the past on subject matter eligibility,[6] but some Group Art Units have continued to reject claims as "abstract" at rates in excess of 75%.[7] Whether the 2019 USPTO Guidelines result in fewer "abstract" idea Examiner rejections remains to be seen.

Concerns exist with decisions at the district court level as well. In 2018, approximately 60% of district court decisions addressing patent eligibility found claims unpatentable, with many of these patent claims invalidated without evidence or testimony.[8]

The result is a haphazard application of the standard in reviewing patent claims, an "I know it when I see it" analysis applied by patent Examiners, Patent Trial and Appeal Board judges, district court judges,

---

bilskiblog.com/2016/10/alicestorm-update-turbulence-and-troubles-html/ (reporting rejections in excess of 90% in various Group Art Units as of 2016).

[6] USPTO Memorandum to the Patent Examining Corps (June 25, 2014), available at http://www.uspto.gov/sites/default/files/patents/announce/alice_pec_25jun2014.pdf; USPTO Memorandum to the Patent Examining Corps (May 19, 2016), available at http://www.uspto.gov/sites/default/files/documents/ieg-may-2016_enfish_memo.pdf; USPTO Memorandum to the Patent Examining Corps (Nov. 2, 2016), available at http://www.uspto.gov/sites/default/files/documents/McRo-Bascom-Memo.pdf; USPTO Memorandum to the Patent Examining Corps (Apr. 19, 2018), available at http://www.uspto.gov/sites/default/files/documents/memo-berkheimer-20180419.pdf.

[7] Chien, *The Impact of 101 on Patent Prosecution*, *supra*.

[8] Meredith Addy, *Alice at Age Four: Time to Grow Up*, IP-WATCHDOG (Sept. 18, 2018) http://www.ipwatchdog.com/2018/09/18/alice-age-four-grow-up/id=101447/ ("[S]ince *Alice*, over 810 district court decisions have addressed patent eligibility . . . about 60 [percent] found claims unpatentable under Section 101.").

and Federal Circuit judges, each of whom may have a different opinion regarding the eligibility of a particular patent claim.

The fundamental issue in the minds of many inventors remains: what is patentable and what is not? Can I get a patent on a unique design that at some level involves and specifically claims computer software, processing using hardware, or processing that somehow improves the functionality of an apparatus? Courts and the USPTO, as well as patent practitioners, struggle with this question, and inventors, who tend to be educated on patent issues in many cases but are typically not legally trained, are uncertain where the line is drawn between patentable and unpatentable inventions.

The challenges here are admittedly not trivial. However, the present framework for evaluating patentability based on the decisions of the Federal Circuit, guidance from the United States Patent and Trademark Office, and district court decisions, collectively result in significant uncertainty as to inventions protectable under § 101. If a patent issues, its claims survive challenges in multiple situations, but are ultimately invalidated by a previously unarticulated requirement, how can an inventor determine whether pursuing her new idea is going to be worthwhile?

Significant risks face the inventor community as a result, in addition to those who employ inventors and those who invest in new technologies. These stakeholders must weigh the fact that patent Examiners are

asked to interpret Supreme Court, Federal Circuit, and district court holdings, as well as USPTO Guidelines, and try to consistently apply this complex body of law and guidance to advanced technology concepts in each patent application reviewed within a limited amount of time. Patent Examiners are not required to be attorneys and many Examiners have no formal legal training. Once a patent issues, should the patent be the subject of litigation, a judge may decide patent eligibility early in a case without a fully developed record based on conflicting precedent. Businesses and investors face a heightened level of uncertainty in their research and development investments. As a result, these stakeholders face significant hurdles when deciding to seek patent protection.

D. The Present Case Adds Further Uncertainty in Determining Patentable Subject Matter, Particularly for Claims Reciting Computer Software Limitations

In the underlying case, the patentable subject matter test has been expanded from the *Alice* two-part test to now include the additional "physical realm/non-abstract application realm" requirement. This requirement presents a further challenge to determine whether a patent claim, and specifically one tied to computer science or computer software, is or is not patentable.

Computer technology has skyrocketed in the last several decades, and the use of devices such as

smartphones, in-home assistants, smart watches, health bands, and the like has proliferated. A number of inventors conceive of new computer science innovations used in these and other devices, and the patentability of such innovations remains an open question. The additional "physical realm/non-abstract application realm" requirement provided in the underlying case is one that could arguably invalidate many or all patent claims reciting computer software processes currently in force, under examination, or contemplated by an inventor.

As both this Court and the Federal Circuit have held on several occasions, computer software is not inherently unpatentable.[9] However, this "physical realm" or "non-abstract application realm" test could

[9] *See Bilski*, 561 U.S. at 605 ("[U]nforeseen innovations such as computer programs" are not "always unpatentable."); *Alice*, 573 U.S. at 224 ("The fact that a computer 'necessarily exist[s] in the physical, rather than purely conceptual, realm' " is "beside the point."); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) ("[W]e [do not] think that claims directed to software, as opposed to hardware, are inherently abstract. . . . Software can make non-abstract improvements to computer technology just as hardware improvements can, and sometimes the improvements can be accomplished through either route. We thus see no reason to conclude that all claims directed to improvements in computer-related technology, including those directed to software, are abstract. . . ."); *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016) (holding that patent claims reciting limitations that improved prior art content filtering solutions by making them more dynamic, using computer software to improve the performance of the computer itself are valid); *In re Johnson*, 589 F.2d 1070, 1076 (C.C.P.A. 1978) ("[T]he Court in both *Benson* and *Flook* refused to hold computer programs non-statutory subject matter per se.").

potentially be interpreted by United States Patent and Trademark Office personnel and the lower courts as a directive to invalidate novel, nonobvious claims reciting a meritorious invention. Furthermore, the term "non-abstract application realm" in and of itself contributes nothing beyond the initial question as to what is "abstract." If one does not define an "abstract" claim, how can one establish when and whether a claim recites something in the "non-abstract application realm"? The very language at issue in the underlying case invites the inconsistent application of patent eligibility standards, and practically begs for different interpretations and different results from a patent Examiner, Patent Trial and Appeal Board judge, district court judge, and a Federal Circuit judge, as well as by the inventor and his or her patent attorney.

Many of the current tests and guidelines represent prohibitions that apply to invalidate clearly unpatentable concepts: claims to mathematical formulas, fundamental economic practices, and the like apply in a number of situations to reject claims. For example, the *Alice* case made the point that a claim that is an idea of itself or is a fundamental economic practice is not patentable. These limitations on patent eligibility are useful in weeding out clearly unpatentable claims.

The problem lies in the nuance, or, in other words, the devil is in the details. The clear-cut prohibitions in *Bilski*, *Mayo*, and *Alice* do not address a vast number of patent claim situations. Inventors rejected at the Patent Office or in the courts based on extensions of these prohibitions to claims covering more complex concepts

can be left frustrated and without protection for their novel ideas. A number of pending and issued claims recite technical limitations more detailed than the binary number conversion of *Gottschalk v. Benson*,[10] the alarm limit calculations claimed in *Parker v. Flook*,[11] the risk hedging method of *Bilski*, and the computer-based escrow design of *Alice*.

Claims in the fields of computer science, quantum computing, artificial intelligence, data science, robotics, cybersecurity, medical diagnostics, and computer engineering frequently enter that grey area between claims easily rejected and those deemed to comprise patentable subject matter. For example, consider an invention directed to cryptocurrency and distributed ledger technologies, such as blockchain. Arguably, this technology is one that is completely software based, but does not represent a "fundamental economic practice" "implemented on a generic computer." What if an inventor has a novel idea for improving blockchain technology that makes blockchain operate more efficiently and has benefits to anyone transacting in cryptocurrency? One could envision claims that run afoul of the prohibitions against fundamental economic practices and ideas implemented on a generic computer, but one could also envision claims reciting complex cryptocurrency and distributed ledger attributes that go beyond these basic prohibitions. Would such a claim survive at all levels of examination and

---

[10] *Gottschalk v. Benson*, 409 U.S. 63 (1972).

[11] *Parker v. Flook*, 437 U.S. 584 (1978).

adjudication? Would a claim to a revolutionary advancement in distributed ledger technology be considered an "innovation in the non-abstract application realm" as was required in the underlying case?

As a further example, an inventor who develops a novel cybersecurity concept that is rejected or invalidated based on the conclusion that his idea is merely one that "is not in the non-abstract realm" leaves the hopeful inventor with nothing. Simply put, in view of the current state of assessing patentable subject matter, and in further view of the "physical realm/ non-abstract application realm" requirement of the underling case, further refinement and articulation of the requirements of § 101 is urgently needed.

Valuable claims in the aforementioned fields have been unjustly rejected as "abstract" and little reason exists to believe that more claims will not be rejected based on the inconsistent application of patent eligibility standards, even in view of recent case law and USPTO direction. It is this grey area that would greatly benefit from overarching, refined patent eligibility guidance that would be uniformly applicable to the USPTO, the Federal Circuit, and the lower courts.

E. Yet More Uncertainty From the Federal Circuit: The Nonprecedential *Cleveland Clinic* Decision

While the Patent Office Guidelines appear to be one step toward clarifying the issue, a recent nonprecedential Federal Circuit decision may represent two

steps in the opposite direction. *Cleveland Clinic Found. v. True Health Diagnostics LLC*, No. 2018-1218, 2019 U.S. App. LEXIS 9451, at *16-17 (Fed. Cir. Apr. 1, 2019) (nonprecedential), makes the following statement:

> While we greatly respect the PTO's expertise on all matters relating to patentability, including patent eligibility, we are not bound by its guidance. And, especially regarding the issue of patent eligibility and the efforts of the courts to determine the distinction between claims directed to natural laws and those directed to patent-eligible applications of those laws, we are mindful of the need for consistent application of our case law.

The *Cleveland Clinic* decision is nonprecedential. However, it would be unsurprising to find the foregoing as the position generally taken by at least some judges of the Federal Circuit with respect to the 2019 Patent Office Guidelines. The risk of the Federal Circuit refraining from applying the 2019 Patent Office Guidelines to claims being adjudicated is clear: an inventor may obtain issued claims approved by the Patent Office as containing patentable subject matter according to the 2019 Patent Office Guidelines. That same inventor litigating his Patent Office approved claims could find, after expenditure of tens or even hundreds of thousands of dollars defending his issued patent that his claims do not pass muster in the eyes of the Federal Circuit and are invalid.

* * *

The risk for inventors is therefore the uncertainty inherent in applying for a patent on what is believed to be a novel and nonobvious apparatus or method. The current state of examination and adjudication in the United States Patent Office, the district courts, and the Federal Circuit is inconsistent and irreconcilable, sometimes within these bodies.

There must be a better way. Guidance on these issues is needed. There must be some way to determine clearer guidance on what constitutes an "abstract" idea rather than leaving the decision to a particular Federal Circuit panel, including a set of judges each with his or her own idea of what is and what should be patentable subject matter. In the present case, a Federal Circuit panel has added another determination, the "physical realm/non-abstract application realm," that adds more questions and uncertainty to the central inquiry of great importance to all inventors and scientists: what is and is not patentable? The underlying decision represents one more brick in the wall between inventors and securing the rights to their innovations afforded to them by Article I, Section 8 of the United States Constitution.

The present situation is one in need of intervention and clarification. Scientists, academics, engineers, and others whose livelihoods and investments rely on innovation depend on a level of certainty in the patent system, and § 101 jurisprudence is anything but

certain. Clear guidance on the applicability of § 101 and what constitutes an "abstract" idea is warranted.

CONCLUSION

For the foregoing reasons, as well as for the reasons stated in the petition, the petition for writ of certiorari should be granted.

Respectfully submitted,

STEVEN W. SMYRSKI
SMYRSKI LAW GROUP, A P.C.
3310 Airport Ave., SW
Santa Monica, CA 90405
(310) 397-9118
steve@smyrski.com

Counsel for Amici Curiae