

No. 21-____

IN THE
Supreme Court of the United States

WORLDS INC.,
Petitioner,
v.

ACTIVISION BLIZZARD INC.,
BLIZZARD ENTERTAINMENT, INC.,
ACTIVISION PUBLISHING, INC.,
Respondents.

**On Petition for a Writ of Certiorari to the
United States Court of Appeals
for the Federal Circuit**

PETITION FOR WRIT OF CERTIORARI

WAYNE M. HELGE
Counsel of Record
JAMES T. WILSON
DAVIDSON BERQUIST JACKSON
& GOWDEY, LLP
8300 Greensboro Drive
Suite 500
McLean, Virginia 22102
(571) 765-7700
whelge@davidsonberquist.com
Counsel for Petitioner

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QUESTIONS PRESENTED

In the mid-1990s, petitioner Worlds invented computer software with protocols that allowed an increased number of players to access a three-dimensional virtual world simultaneously, and provided customizable settings to adapt to each user's computer hardware capabilities. On a motion for summary judgment under 35 U.S.C. § 101, the district court concluded that the patented claims were directed to the abstract idea of filtering. Further, while the movant submitted no evidence to support a finding in its favor, the district court found that the claims recited only well-known, routine, and conventional features and held the claims ineligible. The questions presented are as follows:

1. What is the appropriate standard for determining whether a patent claim is “directed to” a patent-ineligible concept under step one of the Court’s two-step framework for determining whether an invention is eligible for patenting under 35 U.S.C. § 101?
2. Whether a movant seeking a ruling of patent-ineligibility under Section 101 as a matter of law can prevail on step two where the movant submits no evidence of what was well-known, routine, and conventional in the industry as of the date of invention?

LIST OF PARTIES TO THE PROCEEDING

The caption contains a list of all parties to the proceeding in the U.S. Court of Appeals for the Federal Circuit whose decision is sought to be reviewed here.

CORPORATE DISCLOSURE STATEMENT

Pursuant to this Court's Rule 29.6, petitioner Worlds Inc. ("Worlds") certifies that it is the real party in interest and that there are no parent corporations and no publicly held companies that own 10% or more of the stock of Worlds Inc.

RELATED PROCEEDINGS

The following proceedings are directly related to this case within the meaning of this Court's Rule 14.1(b)(iii):

Worlds, Inc. v. Activision Blizzard, Inc. et al., Case No. 1:12-cv-10576 (D. Mass.), opinion issued and judgment entered on April 30, 2021;

Worlds Inc. v. Activision Blizzard, Inc. et al., Case No. 21-1990 (Fed. Cir.), judgment entered on March 10, 2022.

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PETITION FOR A WRIT OF CERTIORARI

Petitioner Worlds Inc. (“Worlds”) respectfully submits this petition for a writ of certiorari to review the judgment of the U.S. Court of Appeals for the Federal Circuit.

OPINIONS AND ORDERS BELOW

The court of appeals’ opinion in *Worlds Inc. v. Activision Blizzard, Inc. et al.*, Case No. 21-1990 (App. 24a-25a) is not published in the Federal Reporter but is reprinted at 2022 WL 726969 (Fed. Cir. Mar 10, 2022). The opinion of the district court granting Activision Blizzard, Inc., Blizzard Entertainment, Inc. and Activision Publishing, Inc.’s (collectively, “Activision”) motion for summary judgment is reported at 537 F.Supp.3d 157 (App. 1a-23a).

JURISDICTIONAL STATEMENT

Petitioner seeks review of a judgment of the U.S. Court of Appeals for the Federal Circuit (“Federal Circuit”) entered on March 10, 2022.

This Court has jurisdiction in this case under 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS INVOLVED

Section 101 of Title 35 of the U.S. Code provides: “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.”

STATEMENT OF THE CASE

A. Preliminary Statement

Since this Court's 2014 decision in *Alice Corp. Pty. Ltd. V. CLS Bank Int'l*, 573 U.S. 208 (2014), the lower courts have struggled to apply the test for determining patent eligibility under 35 U.S.C. § 101 in a consistent manner. *See, e.g., Am. Axle & Mfg., Inc. v. Neapco Holdings LLC*, 977 F.3d 1379, 1382 (Fed. Cir. 2020) (Moore, J., concurring) (noting that the Federal Circuit is "at a loss as to how to uniformly apply § 101"). Indeed, the Federal Circuit has urged the Court to provide guidance in this area. *Id.* This petition presents essential questions regarding how to properly determine whether patent claims directed to computer software processes recite patent-eligible subject matter under § 101.

Below, the district court ruled that Worlds' claims are directed to the abstract idea of filtering, and include only routine, conventional, and well-known features. This analysis overgeneralizes Worlds' claims, which are directed to software processes that improve a client-server architecture in a computer network. Properly considered, Worlds' claims are directed to an eligible process under § 101.

Additionally, the district court's step two analysis did not identify any evidence that the processes performed by the claimed client-server architecture were well-known, routine, or conventional technology at the time of the invention. Indeed, the district court overlooked Worlds' evidence, including favorable *inter partes* review decisions, the Worlds' specification itself, and contemporaneous articles espousing the novelty of Worlds' technical achievements. This evidence established, at minimum, a disputed material

fact on step two. Absent undisputed, clear and convincing evidence of ineligibility, it was error for the district court to grant summary judgment under § 101.

B. Statutory Background, Three Non-Textual Exceptions to Patent Eligibility, and the Struggle to Apply the Current Patent Eligibility Test

Section 101 of the Patent Act defines patent-eligible subject matter as “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” 35 U.S.C. § 101. The invention-at-issue rests within those categories as a “process,” defined by the Patent Act to include a “method.” *See* 35 U.S.C. § 100(b); *see also Bilski v. Kappos*, 561 U.S. 593, 612 (2010).

This Court, however, has provided three exceptions to eligibility, “not required by the statutory text,” but as a “matter of statutory *stare decisis* going back 150 years.” *See Bilski*, 561 U.S. at 601–02. The exceptions are for “laws of nature, natural phenomena, and abstract ideas.” *Id.* at 601; *Alice*, 573 U.S. at 216.

In *Alice* and *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 71 (2012), the Court fashioned a two-part test to police these non-textual exceptions. At step one, the court determines whether the claims-at-issue are directed to one of the three exceptions. *Alice*, 573 U.S. at 218. If not, the claims are eligible for patenting. But if the claims are directed to an exception, the analysis proceeds to step two. There, the court considers the elements of each claim both individually and as an ordered combination to identify whether each claim includes an “inventive concept” that “amounts to significantly

more than a patent upon the ineligible concept itself.” *Id.* at 217–18. If they do, the claims are eligible.

In applying this test, the Court warned to “tread carefully in construing” the exceptions lest they “swallow all of patent law.” *Id.* at 217. “At some level, ‘all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Id.* (quoting *Mayo*, 566 U.S. at 71). “Thus, an invention is not rendered ineligible for patent simply because it involves an abstract concept.” *Id.* (citing *Diamond v. Diehr*, 450 U.S. 175, 187 (1981)). Rather, the Court explained that “[a]pplications of [abstract] concepts to a new and useful end” are patentable. *See Alice*, 573 U.S. at 217 (quoting *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)) (internal marks omitted).

The lower courts have struggled to apply the Court’s two-part framework. In doing so, they have departed from the Court’s warning and have swallowed much of patent law, as demonstrated by this case, *American Axle*, and other pending petitions before the Court, such as *Interactive Wearables, LLC v. Polar Electro Oy*, No. 21–1281 (docketed Mar. 22, 2022).

Similarly, the lower courts have struggled with how to balance the Court’s two-part framework with the strong presumption of validity set forth in 35 U.S.C. § 282(a) and the standards for granting summary judgment under Fed. R. Civ. P. 56. *See Microsoft Corp. v. i4i Ltd. P’ship*, 564 U.S. 91, 95 (2011) (the presumption of validity can only be rebutted with clear and convincing evidence of invalidity); *see also Am. Axle & Mfg., Inc. v. Neapco Holdings LLC*, 967 F.3d 1285, 1309–10 (Fed. Cir. 2020) (Moore, J., dissenting) (noting “[n]o party introduced evidence that the desired result of claim 22 (reducing two types of vibration) is accomplished by application of Hooke’s

law *and nothing more*. . . . All evidence in this case is to the contrary.”) (emphasis in original); *id.* at 1311 (“Whether Hooke’s law and nothing more achieves reduction in two types of vibration in propshafts should be a question of fact, but the majority concludes otherwise. It decides this question of physics as a matter of law on appeal in the first instance even at summary judgment.”).

C. The United States Amicus Brief in *American Axle & Manufacturing v. Neapco Holdings LLC* Encourages this Court to Grant Certiorari and Clarify the Two-Part Test for Eligibility

On December 28, 2020, the plaintiff in *American Axle & Manufacturing v. Neapco Holdings LLC* filed a petition for writ of certiorari presenting questions substantially similar to those at issue in this case. *See Am. Axle & Mfg., Inc. v. Neapco Holdings, LLC* (No. 20-891) (docketed Jan. 5, 2021). On May 24, 2022, the Brief for the United States as *Amicus Curiae* encouraged the Court to grant certiorari. As the Solicitor General stated regarding the current framework based on *Alice* and *Mayo*:

Clarification of both steps [of the *Mayo/Alice* framework] is especially important, both because a court’s step-two analysis often finally resolves the determination as to patent-eligibility, and because the nature of the initial step-one screen logically depends in part on the inquiry that courts will apply at step two.

Brief for the United States, *Am. Axle & Mfg., Inc. v. Neapco Holdings, LLC*, No. 20–891, at 9.

D. Worlds' Development of Virtual World Technology Led to the Patented Innovations

In the mid-1990s, Worlds created computer software enabling multiple players to interact together via internet-based, three-dimensional virtual worlds. C.A. App. 1492-1500, 1501, 1543-1545. Two computer programs developed by Worlds—*Worlds Chat* and *AlphaWorld*—enabled multiple remote users to chat and interact, over the internet, in graphically-rich three-dimensional virtual environments. C.A. App. 1489. Released in 1995, *Worlds Chat* was acclaimed in the press as “the hottest innovation the Internet will see this year,” and it was deemed noteworthy for “the potential it brings to cyberspace.” C.A. App. 1496-1497. The *San Francisco Examiner* called *Worlds Chat* “one of the first examples of virtual reality on the Internet.” C.A. App. 1492-1495. Worlds also drew the attention of Steven Spielberg, who announced a partnership with Worlds and other entities to “create a 3-D environment where hospitalized children can play and socialize with each other.” *Id.*

In connection with the development of these products, four Worlds employees discovered specific, novel software solutions that allowed many users to interact simultaneously in a virtual world, without encountering the bottlenecks and restrictions present in prior computer network architectures.¹ The purpose of Worlds' invention was to provide “a highly scalable architecture for a three-dimensional graphical, multi-user, interactive virtual world system.” U.S. Patent

¹ A “computer network architecture” is defined as the “logical structure and the operating principles, including those concerning services, functions, and protocols, of a computer network.” C.A. App. 1552.

No. 7,181,690, Abst.; *see also id.* at 1:10-13; 2:17-20; 2:24-38. These specific improvements in network architecture solutions—previously unknown to the virtual world industry—are the focus of the Worlds patents-in-suit.

E. The Patents-In-Suit Disclose and Claim a Novel Computer Software Process That Expanded Virtual World Scalability

The Worlds Patents-In-Suit are U.S. Patent Nos. 7,181,690 (the “690 Patent”); 7,493,558 (the “558 Patent”); 8,082,501 (the “501 Patent”); and 8,145,998 (the “998 Patent”) (collectively, the “Patents-In-Suit”). These patents share a common specification and are all titled “System and Method for Enabling Users to Interact in a Virtual Space.” Per the specification, these patents address the disclosed problem present in implementing networked three-dimensional virtual worlds: how to enable interaction among an uncertain number of remote users in a three-dimensional world, given the restrictions in network capacity and varying processing capabilities of client computers. ’690 Patent at 1:14–2:20 (“While such a system may have only one server, it typically has many clients.”); *id.* at 5:41-45 (disclosing that a user may use “a computer with less computer power than the average machine” such that “tracking N avatars would make processing and rendering of the virtual world too slow.”).²

Through the disclosed architecture protocols, the server communicates game information updates to users’ client devices on a restricted basis to avoid

² While all Patents-In-Suit share a common specification, citations to the specification will be limited to the ’690 Patent. This is because the district court focused its § 101 analysis on claim 4 of the ’690 Patent. App 15a-16a.

both overloading the network with updates, and to avoid overloading individual client devices, which process those updates to render a view of the virtual world. *See, e.g.*, '690 Patent at 3:41-44 (indicating that scalability to “a large number of clients” requires the server to be “much more discriminating as to what data is provided to each client[]”); *id.* at 5:41-45 (discussing measures to allow “a computer with less computing power than an average machine” to participate in the virtual world).

In particular, Worlds' patents allowed for increased participation in the virtual world by, counter-intuitively, placing restrictions at key locations in the network architecture. '690 Patent at 3:44-46 (“[A]lthough a status panel 17 indicates that six other avatars are present, many other avatars are in the room, but are filtered out for crowd control.”); *id.* at 5:31-35 (discussing a “crowd control” function to ensure that a client and user do not “get overwhelmed by the crowds of avatars likely to occur in a popular virtual world.”). In the novel software disclosed and claimed, a server sends a client fewer than all positions of the other clients' avatars (*id.* at 5:36-37), and a client can choose conditions for which positions of other clients it will process when playing the game and rendering the virtual world (*id.* at 5:36-41).

These features are embodied in the Worlds claims, including dependent claim 4 and its base claim 1 of the '690 Patent. '690 Patent at 19:31-43, 19:55-64. As recited in claim 1, step (a) is “performed by the client process associated with the first user” and recites “receiving a position of less than all of the other user' avatars from the server process.” Step (b), also performed by the client process, involves determining

“a set of the other users’ avatars that are to be displayed to the first user.” And through claim 4’s steps, the determining step of step (b) also includes accounting for the client process’s “maximum number of the other users’ avatars to be displayed” and comparing this “maximum number” to the number of position updates received from the server process.

Through these steps, the Worlds patents claim a specific technique for managing network and processing loads on a client-server architecture without restricting the number of players in the game, or filtering users out of the virtual world. Instead, the Worlds patents *increase* the number of users who can participate in the virtual world by placing restrictions on what position information is transmitted to each client process, and what position information is processed by each client to render a view of the virtual world.

F. The Worlds Patents Survived Six IPRs Filed Against Them

In 2015, long after the expiration of Activision’s statutory time bar to file for *inter partes* review (IPR) against the Patents-In-Suit under 35 U.S.C. § 311, third party Bungie, Inc. filed six IPR petitions challenging the validity of the Worlds patents asserted against Activision.³

In 2016, Worlds prevailed on the merits in three of the IPRs and established the patentability of claims currently asserted against Activision. App. 7a. Neither Bungie nor Worlds appealed these final written decisions.

³ Activision later admitted it was a time-barred real party in interest to Bungie’s six IPR petitions. C.A. App. 1720-1726.

In the other three IPRs, Worlds successfully appealed adverse decisions from the Patent Trial and Appeal Board (“PTAB”). Those adverse decisions were vacated and remanded by the U.S. Court of Appeals for the Federal Circuit, and on remand the PTAB dismissed those IPRs without issuing merits decisions. App. 7a-8a.

G. The District Court’s Ruling of Ineligibility Relies on an Oversimplified and Incorrect Characterization of the Claims, and is Unsupported by Record Evidence

Nine years after Worlds filed its lawsuit against the Activision entities, the district court issued its Memorandum and Order (“Order”) on April 30, 2021, granting Activision’s motion for summary judgment and holding the asserted claims⁴ of the Patents-In-Suit to be ineligible under § 101.

Initially the district court recognized that “the Patents-In-Suit resolve bandwidth issues with multi-player games through ‘multi-criteria filtering of avatar position and state information, but at the client side and the server side,’ i.e., ‘crowd control.’” App. 2a. The district court also observed that the asserted claims “achieve crowd control by some form of filtering of information, . . . but in slightly different ways: i.e., by ‘fewer than all’ in the ’856 patent; a “maximum number” in the ’690 patent and ’558 patent; and by “condition” in the ’501 patent and the ’998 patent.” *Id.*

⁴ The claims subject to the district court’s Order are identified at App. 2a. The district court’s § 101 analysis focused on claim 4 of the ’690 Patent, which survived IPR on the merits. App. 15a-16a; App. 7a.

While discussing the history of the patents, the district court acknowledged that claim 4 of the '690 Patent, and other asserted claims, successfully survived IPR on the merits. App. 7a. The district court also noted that the other three IPRs were terminated by the PTAB on remand from the Federal Circuit without merits decisions. *Id.* However, the district court chose to ignore the favorable merits decisions while crediting the decisions vacated by the Federal Circuit. App. 9a.

At step one, the district court asked “whether World’s patents are directed to patent-ineligible concepts, namely the abstract idea of ‘filtering’ . . . which amounts to ‘crowd control’” or whether “the claims are ‘directed to a novel client-server computer network architecture for 3-D virtual worlds,’” as Worlds contended. App. 16a-17a. However, the district court stated that even if the claims were directed to “a novel client-server computer network architecture for 3-D virtual worlds,” they were not patent-eligible. App. 17a.

Without acknowledging that Worlds’ claimed process does not filter players out of the game, the district court concluded that “the claims do nothing more than recite a general client-server computer architecture to perform routine functions of filtering information to address the generic problem of crowd control.” *Id.* (quotation and citation omitted). The district court continued its misunderstanding of Worlds’ claims by comparing them to “real-world maximum capacity limits on elevators, at restaurants and other physical spaces typically open to the public.” *Id.*

Turning to step two, the district court rejected Worlds’ position that “the Patents-In-Suit teach a

specific approach to a computer network architecture that includes an inventive concept.” App. 20a. While the district court was presented with no evidence by the movant on step two, the district court found that “the claims lack limitation to any specific application, do not add any steps other than conventional post-solution activity to the abstract formula described.” *Id.* (quotation and citation omitted). The district court also held that “[t]he steps of the claims here use only ‘generic functional language to achieve the purported solution’ of filtering of position information for crowd control.” App. 21a (citing *Two-way Media, Ltd. v. Comcast Cable Comms. LLC*, 874 F.3d 1329, 1339 (Fed. Cir. 2017)).

Without noting the PTAB’s determination of patentability for claim 4 of the ’690 Patent, the district court held that “there is nothing in the ordering of the steps in the claims (i.e., receiving, determining, comparing) that make them inventive; the ‘steps are organized in a completely conventional way.’” App. 22a (citing *Two-way Media*, 874 F.3d at 1341 and *Glasswall Solutions Ltd. v. Clearswift Ltd.*, 754 F. App’x 996, 999 (Fed. Cir. 2018)).

Further, without citing to any record evidence, the district court held that the claims were not “inherently inventive or sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application” because “Worlds’ asserted claims use a general-purpose computer to employ well known filtering or crowd control methods and means that ultimately use same to display graphical results and generate a view of the virtual world.” App. 22a.

Worlds timely appealed the district court’s judgment. The Federal Circuit held oral argument on March 8, 2022. On March 10, 2022, the Federal Circuit

affirmed the district court’s ineligibility ruling without explanation or opinion, in a judgment pursuant to Federal Circuit Rule 36.⁵ App. 24a-25a.

REASONS FOR GRANTING THE PETITION

I. THE FEDERAL CIRCUIT, DISTRICT COURTS, AND THE PATENT COMMUNITY DESPERATELY SEEK CLARIFICATION ON THE NON-TEXTUAL EXCEPTIONS TO PATENT ELIGIBILITY UNDER § 101.

Judge Kathleen O’Malley, retired from the Federal Circuit as of March, 2022, recently explained, “all 12 active judges” on the Federal Circuit are “beg[ging] the Supreme Court for guidance” on § 101.⁶ Now-Chief Judge Moore has similarly explained that the Federal Circuit’s “confusion [of the *Alice/Mayo* framework] has driven commentators, amici, and every judge on [the Federal Circuit] to request Supreme Court clarification.” *Am. Axle*, 977 F.3d at 1382 (Moore, J., concurring).

The nation’s patent appeals court has turned the two-step test into “a panel-dependent body of law,” as the judges themselves even recognize. *See id.* (Moore, J., concurring). Despite this Court’s holding that “applications” of abstract ideas or laws of nature

⁵ A Rule 36 judgment is non-precedential and “does not endorse or reject any specific part of the trial court’s reasoning.” *Rates Tech., Inc. v. Mediatix Telecom, Inc.*, 688 F.3d 742, 750 (Fed. Cir. 2012).

⁶ Dani Kass, *From Alice to Fintiv: Judge O’Malley Dishes on Patent Law*, Law360 (Mar. 23, 2022, 6:18 PM EDT), available at <https://www.law360.com/ip/articles/1476073/from-alice-to-fintiv-judge-o-malley-dishes-on-patent-law> (last accessed Jun. 5, 2022).

are eligible for patenting, they are often found ineligible in determinations that are entirely dependent on the particular district judge or Federal Circuit panel composition.

For example, in the field of computer inventions, the Federal Circuit has held improved graphical user interfaces are *both* eligible and ineligible. Compare *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1361–63 (Fed. Cir. 2018), with *Internet Pats. Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1344–49 (Fed. Cir. 2015). It has made similarly inconsistent findings with respect to virus-scanning software programs. Compare *Finjan, Inc. v. Blue Coat Sys., Inc.*, 879 F.3d 1299, 1303–06 (Fed. Cir. 2018), with *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1319–22 (Fed. Cir. 2016). And in *American Axle*, which did not involve computer software, the Federal Circuit found a method of manufacturing automobile driveline propeller shafts to be directed to a law of nature and ineligible. *Am. Axle*, 967 F.3d at 1298.

Individual judges on the Federal Circuit disagree on how to apply the two-part test. Specifically, they disagree on whether the inclusion of a technical solution in a claim warrants eligibility under *Alice* step one or step two for a patent claiming computer software. In *CosmoKey Solutions GmbH v. Duo Security LLC*, 15 F.4th 1091 (Fed. Cir. 2021), the claim-at-issue survived under step two because the claims recited “a specific improvement” and a “technical solution to a security problem in networks.” *Id.* at 1098; see also *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1303 (Fed. Cir. 2016) (similarly addressing a technological solution under step two). The *CosmoKey* concurrence, however, criticized the

analysis, finding that the claim passed step one for essentially the same reason, because it was directed to “a specific technological solution to a technological problem.” *CosmoKey Solutions*, 15 F.4th at 1100 (Reyna, J., concurring). While the creation of new and innovative computer software is essential to the U.S. economy, not even the judges on the Federal Circuit can demonstrate with certainty how to apply this Court’s two-part test when determining whether a patent claim is directed to eligible subject matter.

Given the disagreements among Federal Circuit judges on how to implement § 101, an en banc rehearing offers no relief, as confirmed by the Federal Circuit’s 6–6 vote to deny rehearing en banc in the *American Axle* case. See *Am. Axle & Mfg., Inc. v. Neapco Holdings LLC*, 966 F.3d 1347 (Fed. Cir. 2020). In another case denying en banc rehearing (in a 7–5 vote), now-Chief Judge Moore told the patent community: “No need to waste resources with additional en banc requests. Your only hope lies with the Supreme Court or Congress.” *Athena Diagnostics, Inc. v. Mayo Collaborative Servs., LLC*, 927 F.3d 1333, 1363 (Fed. Cir. 2019) (Moore, J., dissenting).

As a further complication, the Federal Circuit affirms district courts without comment or opinion in a large percentage of its eligibility cases.⁷ One study showed that the Federal Circuit summarily affirmed without opinion over half of its eligibility cases in the first three years after the Court’s *Alice* decision—all of

⁷ The Federal Circuit issued Rule 36 affirmances, without opinion, in this case and in three other petitions pending before the Court: *Interactive Wearables, LLC v. Polar Electro Oy*, No. 21–1281 (docketed Mar. 22, 2022), *Ameranth, Inc. v. Olo, Inc.*, No. 21–1228 (docketed Mar. 10, 2022), and *Spireon, Inc. v. Procon Analytics, LLC*, No. 21–1370 (docketed Apr. 21, 2022).

which upheld findings of ineligibility.⁸ The result is that district courts are forced to wade through the many conflicting opinions present in § 101 jurisprudence without guidance or clear oversight from the Federal Circuit.

The unpredictability in implementing the current § 101 framework has also spilled down to the U.S. Patent & Trademark Office’s patent examiners. *See 2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50, 50-52 (Jan. 7, 2019) (noting that applying this Court’s recent §101 decisions “in a consistent manner has proven to be difficult”; “has caused uncertainty in this area of the law”; has made it difficult for “inventors, businesses, and other patent stakeholders to reliably and predictably determine what subject matter is patent-eligible”; and “poses unique challenges for the USPTO” itself). The resulting uncertainty in the U.S. patent system cannot continue.

Worlds respectfully asks that the Court address the judicial exceptions to § 101, especially with regard to patents involving computer software. Clear guidance to the Federal Circuit, the nation’s lower courts, and the USPTO—and consistent application of § 101 framework—is essential for American innovation.

⁸ Paul R. Gugliuzza and Mark A. Lemley, *Can a Court Change the Law by Saying Nothing?*, 71 *Vanderbilt L. Rev.* 766, 767 (2018) (indicating the Federal Circuit decided 104 cases under the *Alice/Mayo* framework, and 54 of those were Rule 36 affirmances).

II. IN THEIR ATTEMPTS TO APPLY STEP ONE OF THE § 101 FRAMEWORK, LOWER COURTS ARE COMMITTING THE VERY OFFENSES THIS COURT WARNED AGAINST.

As is evident from *American Axle* and the other pending petitions raising § 101 questions, the lower courts are not correctly applying the Court's two-step framework for eligibility. At step one, courts must determine whether the patent claim is directed to a "patent-ineligible concept." *Alice*, 573 U.S. at 217. In *Alice*, the Court held that it "need not labor to delimit the precise contours of the 'abstract ideas' category." *Id.* at 221. There currently is no specific rule or test for identifying an abstract idea or a natural law.

This Court did warn, however, against overgeneralizing claims in step one. The Court explained that lower courts must "tread carefully" at step one lest they "swallow all of patent law" since, "[a]t some level, 'all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.'" *Alice*, 573 U.S. at 217 (quoting *Mayo*, 566 U.S. at 71). Indeed, overgeneralizing claims, "if carried to its extreme, make[s] all inventions unpatentable because all inventions can be reduced to underlying principles of nature which, once known, make their implementation obvious." *Diehr*, 450 U.S. at 189 n.12.

Despite the Court's warnings, the Federal Circuit and district courts frequently overgeneralize claims in search of an abstract idea or natural law. In *American Axle*, the Federal Circuit summed up a patent claim reciting a specific method of manufacturing an automobile driveshaft as being simply "directed to the use of a natural law: Hooke's law" ($F=kx$), *Am. Axle*,

967 F.3d at 1298, even though Hooke’s law was not recited in the claims.

Similarly, in *CardioNet, LLC v. InfoBionic, Inc.*, 816 F. App’x 471, 472 (Fed. Cir. 2020), claims in the field of “mobile cardiac telemetry” devices, which “monitor the electrical activity of a patient’s heart” for “anomalies . . . such as cardiac arrhythmias,” were found ineligible. *Id.* at 477. While the claims there recited a “monitoring system” that the specification explained could be an “implantable medical device,” the Federal Circuit found they were just “collecting, analyzing, and displaying data.” *Id.* at 475; U.S. Patent No. 7,212,850 at 2:27–34.

In the present case, the district court found the claims directed to the abstract idea of “filtering” through crowd control, while overlooking that Worlds’ claims enable more users—not fewer users—to access the virtual world. App. 16a-20a. Additionally, the district court overlooked that the claims allow users with more capable equipment to interact in the virtual world with users operating with less capable equipment. C.A. App. 1345, 1350-53, 1356, 1361, 1668-1669; ’690 Patent at 1:14-20, 3:41-46, 5:29-67. “Filtering” cannot be what the claims are “directed to” under this Court’s precedent—the claims do not filter players out of the game. Rather, they “use” filtering to achieve counterintuitive advantages in multiplayer virtual worlds. And even if “filtering” is abstract, this Court has confirmed that the “use” of an abstract idea does not render a patent claim ineligible under Section 101. See *Alice*, 573 U.S. at 217; *Mayo*, 566 U.S. at 71.

This Court’s clarification is desperately needed to correct the lower courts’ application of § 101 framework.

III. THE LOWER COURTS ARE ALSO IMPROPERLY DECIDING FACTUAL DISPUTES AS A MATTER OF LAW TO DETERMINE ELIGIBILITY, VIOLATING SUMMARY JUDGMENT STANDARDS.

The confused application of subject-matter eligibility law in the lower courts has also bled into foundational procedural errors by those courts. As an initial matter, the Federal Circuit’s cases are unclear to the extent eligibility is a matter of law or a mixed question of fact and law. Certain decisions have indicated the second step of *Alice*, whether the claims recite an inventive concept, is a factual question. *See, e.g., Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018). But step one is typically treated as a legal issue, even though the Federal Circuit routinely asks whether the patent claims recite a “technological improvement” or “solution” to a “technological problem,” which are factual questions. *See, e.g., McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed. Cir. 2016).

As a result of the Federal Circuit’s confusing eligibility record, district courts regularly and improperly find patents ineligible at the summary judgment stage, even though factual disputes combined with the presumption of validity should preclude many such rulings. *See, e.g.*, App. 20a-23a (finding, without evidence, that the claims recite only routine and conventional steps); *see also Am. Axle*, 967 F.3d at 1305 (Moore, J., dissenting) (criticizing the majority for deciding questions of physics at summary judgment and “convert[ing] factual issues into legal ones”), *Jones v. Bock*, 549 U.S. 199, 212 (2007) (“[C]ourts should generally not depart from the usual

practice under the Federal Rules on the basis of perceived policy concerns.”). As of January 2022, data showed that district courts have allowed juries to address some aspect of the *Alice/Mayo* framework in only four cases—all in a single district.⁹

In the present case, the district court’s opinion considers vacated IPR decisions while ignoring the non-vacated IPR decision upholding patentability of the representative claim. The district court stated “the substance of the PTAB’s prior rulings serves to support the Court’s analysis below that the client-side and server-side filtering of position information is not inventive.” App. 9a. In so doing, the district court demonstrated confusion as to which aspects of the *Alice* inquiry involved questions of law and which involved questions of fact. Compounding the confusion, the district court’s step two analysis did not address Worlds’ evidence showing praise for Worlds’ technical contributions (C.A. App. 1344-1345, 1372-1373, 1379-1380) and evidence that Worlds’ claims had survived *inter partes* review (App. 7a), facts directly contradicting the district court’s view of the “substance of the PTAB’s prior [vacated] rulings.” App. 20a-23a; App. 9a.

The Court, therefore, should take this opportunity to provide improved guidance regarding the proper test for subject-matter eligibility, including the fact versus law distinction, and its application where parties seek judgment as a matter of law.

⁹ C. Graham Gerst & Lilly Parker, *Section 101 on Trial: Understanding How Eligibility Issues Have Fared Before Judges*, IPWatchdog (Jan 31, 2022, 5:15 PM) available at <https://www.ipwatchdog.com/2022/01/31/section-101-trial-understanding-eligibility-issues-fared-juries> (last accessed Jun. 3, 2022).

**IV. THIS CASE SHOULD BE DECIDED
UNDER ANY MERITS DECISION IN
AMERICAN AXLE.**

This petition presents the same questions as the petition for a writ of certiorari filed in *American Axle*, No. 20–891, and the United States has recently urged this Court to grant that petition and provide clarity to the § 101 framework. If the Court grants the petition in *American Axle* or another petition presenting similar § 101 questions, then the merits decision there should dictate the outcome of this petition.¹⁰

The first question raised in *American Axle* is “the appropriate standard for determining whether a patent claim is ‘directed to’ a patent-ineligible concept.” In *American Axle*, the Federal Circuit oversimplified a patent claim reciting a method of manufacturing an improved driveshaft for an automobile, finding it was simply “directed to the use of a natural law: Hooke’s law” ($F=kx$). *Am. Axle*, 967 F.3d at 1298.

Here too, the district court overgeneralized the claims, and incorrectly concluded that because the claims included filtering of position information, they were “directed to” filtering. In doing so, the district court ignored the recited limitations and method steps. If the Court grants certiorari in *American Axle* on this first question, then the judgment here should be vacated and remanded so that the district court can apply the clarified standard articulated by the Court.

¹⁰ Similar § 101 questions have been raised in at least three other currently-pending petitions for writs of certiorari. See *Spireon, Inc. v. Procon Analytics, LLC*, No. 21–1370 (docketed Apr. 21, 2022); *Interactive Wearables, LLC v. Polar Electro Oy*, No. 21–1281 (docketed Mar. 22, 2022); and *Ameranth, Inc. v. Olo, Inc.*, No. 21–1228 (docketed Mar. 10, 2022).

The second question raised in the *American Axle* petition is whether “patent eligibility (at each step of the Court’s two-step framework)” involves a “question of fact for the jury based on the state of art at the time of the patent.” In this case, eligibility was decided on a motion for summary judgment, but all factual inferences were improperly construed in the light most favorable to the movant rather than non-movant Worlds. See *Alliance of Auto. Mfrs. v. Gwadosky*, 430 F.3d 30, 34 (1st Cir. 2005). Indeed, the district court was presented with no evidence on step two by the movant, and it overlooked Worlds’ step two evidence in concluding that the claims failed to satisfy step two. App. 20a-23a. If the Court grants certiorari on the step two question presented in *American Axle*, or if the Court finds that questions of fact impact either step of the *Alice/Mayo* framework, then the judgment here also should be vacated and remanded.

The Court, therefore, should hold this petition pending its consideration and final disposition of *American Axle* or similar petition, and resolve this petition as appropriate in view of any decision(s) on § 101 questions.

V. ALTERNATIVELY, THIS CASE WOULD BE AN APPROPRIATE COMPANION CASE FOR REVIEW WITH *AMERICAN AXLE*.

Alternatively, this case would be an appropriate companion case to *American Axle*. By granting certiorari in this case along with *American Axle*, the Court can simultaneously consider cases that involve multiple judicial exceptions to eligibility—both a “law of nature” in *American Axle* and an “abstract idea” in this case. Further, while the technology in *American Axle* is directed to methods of manufacturing a drive-

shaft, this case is directed to specific improvements in computer software.

Thus, by granting certiorari in both *American Axle* and this case, the Court can then clarify the standards for patent eligibility across different technologies and judicial exceptions. See Brief for the United States, *Am. Axle & Mfg., Inc. v. Neapco Holdings, LLC*, No. 20–891, at 21 (“[I]n applying Section 101 to the more traditional industrial manufacturing method at issue [in *American Axle*], the Court can more readily draw on historical practice and precedent to clarify the governing principles, which can then be translated to other contexts.”).

Given that many § 101 challenges invoke an abstract idea, as opposed to a law of nature, the additional flexibility provided by granting certiorari in this case as a companion case to *American Axle* would be particularly helpful to the Federal Circuit and patent community. See *Spireon, Inc. v. Procon Analytics, LLC*, No. 21-1370, Pet. for Writ of *Certiorari* at 31 n.14 (presenting data showing that approximately 90 percent of all § 101 challenges through Q4 2018 were based on the “abstract idea” exception).

In addition, like in *American Axle*, this case was decided on summary judgment. Taking up both cases together, therefore, will provide the Court with an opportunity to fully flesh out the fact-versus-law distinctions that district courts wrestle with on step two.

Therefore, this case would serve an as appropriate companion case with *American Axle* to clarify the non-textual exceptions to § 101 of the Patent Act.

CONCLUSION

The Court has the opportunity to weigh cases together and determine the optimal way to aid the lower courts struggling to apply this Court's *Alice/Mayo* § 101 two-part inquiry.

For all the reasons set forth above, Worlds respectfully requests that certiorari be granted in this case. Alternatively, Worlds requests that this petition be held pending the disposition of No. 20-891 and then granted, vacated, and remanded for the Federal Circuit to review in light of *American Axle* (or disposition of a similar petition).

Respectfully submitted,

WAYNE M. HELGE

Counsel of Record

JAMES T. WILSON

DAVIDSON BERQUIST JACKSON
& GOWDEY, LLP

8300 Greensboro Drive

Suite 500

McLean, Virginia 22102

(571) 765-7700

whelge@davidsonberquist.com

Counsel for Petitioner

June 8, 2022

APPENDIX

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APPENDIX A

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

Civil Action No. 12-10576-DJC

WORLDS, INC.,

Plaintiff,

v.

ACTIVISION BLIZZARD, INC.,
BLIZZARD ENTERTAINMENT, INC. and
ACTIVISION PUBLISHING, INC.,

Defendants.

MEMORANDUM AND ORDER

CASPER, J.

April 30, 2021

I. Introduction

Plaintiff Worlds, Inc., (“Worlds”) alleges that Defendants Activision Blizzard, Inc., Blizzard Entertainment, Inc. and Activision Publishing, Inc. (collectively, “Activision”) infringe United States Patents Nos. 7,181,690 (“690”) 7,493,558 (“558”) 7,945,856 (“856”) 8,082,501 (“501”) and 8,145,998 (“998”) (collectively, the “Patents-In-Suit”). Activision has moved for summary judgment seeking a ruling that the remaining claims of the Patents-In-Suit at issue are invalid as a matter of law. D. 272. For the following reasons, the Court **ALLOWS** Activision’s motion.

II. Factual Background

The following material facts are based upon Activision's Statement of Material Facts, D. 177, Worlds' Statement of Material Facts, D. 185, and/or the documents referenced in same and are undisputed.

A. Patents-In-Suit

At this juncture, Worlds presses that Activision infringes the following twenty-one claims of the Patents-In-Suit: '690 claims 4, 8, 13 and 16; '558 claims 5 and 7; '856 claim 1; '501 claims 1-8, 10, 12 and 14-16; and '998 claim 18. D. 269 at 2; D. 283 at 10. As Worlds has explained, the Patents-In-Suit resolve bandwidth issues with multiplayer games through "multi-criteria filtering of avatar position and state information, but at the client side and the server side," i.e., "crowd control." D. 183 at 5. The remaining claims at issue achieve crowd control by some form of filtering of information, D. 183 at 8, but in slightly different ways: i.e., by "fewer than all" in the '856 patent; a "maximum number" in the '690 patent and '558 patent; and by "condition" in the '501 patent and the '998 patent. D. 273 at 6.

U.S. Patent No. 7,181,690 ("the '690 patent")

The '690 patent, "a system and method for enabling users to interact in a virtual space," was filed on August 3, 2000 and issued on February 20, 2007. D. 275 ¶ 1; D. 274-1 at 2. It provides a "highly scalable architecture for a three-dimensional, graphical, multi-user, interactive virtual world system." *Id.* So that a user's view "can be updated to reflect the motion of the remote user's avatars, motion, information is transmitted to a central server process which provides positions updates to client processes for neighbors of

the user at that client process.” *Id.* “The client process also uses an environment database to determine which background objects to render as well as to limit the movement of the user’s avatar.” *Id.*

Claims 4, 8, 13 and 16 of the '690 patent are currently at issue. Claim 4 (incorporating the method of claim 1 which is a “method for enabling a first user to interact with other users in a virtual space”) involves determining the maximum number of the other users’ avatars to be displayed by comparing the actual number to the maximum number of other users’ avatars to be displayed. D. 274-01 at 13. Claim 8 (incorporating the method of claim 6 which is a “method for enabling a plurality of users to interact in a virtual space”) also involves a maximum number of avatars by comparing the actual number of avatars that are not associated with the client process based on the positions transmitted by the server process to the maximum number of avatars that can be displayed. D. 274-1 at 13. Claim 13 (incorporating the software program of claim 11) provides instructions for determining the other users’ avatars to be displayed by comparing the actual number of the other users’ avatars (from the received positions) to the maximum number of the other users’ avatars to be displayed. D. 274-1 at 14. Claim 16 (incorporating the software program of claim 15) provides instructions for determining which avatars to be displayed from comparing the determination of the actual number of avatars that are not associated with the client process based on the positions transmitted by the server process to the maximum number of avatars that can be displayed. D. 274-1 at 14.

U.S. Patent No. 7,493,558 (“the ’558 patent”)

The ’558 patent, a “system and method for enabling users to interact in a virtual space,” was filed on November 2, 2006 and issued on February 17, 2009. D. 275 ¶ 22; D. 274-2 at 1. Worlds continues to assert claims 5 and 7 of the ’558 patent in this litigation. Similar to the claims in the ’690 patent, these claims achieve crowd control by filtering through a maximum number. Claim 5 (incorporates the machine-readable medium of claim 40) provides that the avatars to be displayed is determined by comparing “an actual number of avatars in the set associated said each client process based on the positions transmitted by the server process” to “a maximum number of avatars that can be displayed to the user associated with said each client process.” D. 274-2 at 14. Claim 7 (incorporates the computer readable medium of claim 6) determines the avatars to be displayed by comparing “an actual number of avatars that are not associated with the client process based on the positions transmitted by the server process” with “a maximum number of avatars that can be displayed.” D. 274-2 at 14.

U.S. Patent No. 7,945,856 (“the ’856 patent”)

The ’856 patent, a “system and method for enabling users to interact in a virtual space.” was filed on January 13, 2009 and issued on May 17, 2011. D. 275 ¶ 36; D. 274-3 at 1. This patent serves to achieve crowd control by filtering information by “fewer than all” methods. Worlds presses claim 1 of the ’856 patent. Claim 1 is a “method for enabling a first user to interact with second users in a virtual space . . . , the method comprising: (a) receiving by the first client process from the server process received positions of selected second avatars; and (b) determining, from the

received positions, a set of the second avatars that are to be displayed to the first user, wherein the first client process receives positions of fewer than all of the second avatars. D. 274-3 at 24.

U.S. Patent No. 8,082, 501 (“the ’501 patent”)

The ’501 patent, a “system and method for enabling users to interact in a virtual space,” was filed on March 19, 2009 and issued on December 20, 2011. D. 275 ¶ 52; D. 274-4 at 1. This patent also achieves crowd control through filtering information by a condition or conditions. Worlds asserts claims 1-8, 10, 12, and 14-16 of the ’501 patent.

Claim 1-8 concern a “method for enabling a first user to interact with other users in a virtual space, . . . , the method comprising the steps” that vary with each claim. D. 274-4 at 23. In claim one, the steps involve customizing “an avatar in response to input by the first user,” receiving “position information associated with fewer than all of the other user avatars in an interaction room of the virtual space, from a server process, wherein the client device does not receive position information of at least some avatars that fail to satisfy a participant condition imposed on avatars displayable on a client device display of the client device; determining, . . . a displayable set of the other user avatars associated with the client device displayed; and displaying, . . . the displayable set of the other user avatars associated with the client device display.” *Id.* Claims 2-8 and 10 add or alter the conditions of the method in Claim 1. *Id.*

Claim 12 is a “client device for enabling a first user to interact with other users in a virtual space” and is comprised of “a memory storing instructions” and “a processor programmed using the instructions” for

various conditions for “determin[ing] a set of the other users’ avatars displayable on a screen associated with the client device.” *Id.* at 23. Claim 14 is an “article of manufacture comprising at least one memory storing computer code for enabling a first user to interact with other users in a virtual space, . . . the computer code comprising instructions for conditions for customizing, receiving, determining and then displaying the other user avatars.” *Id.* Claims 15 and 16 incorporate the article of manufacture in Claim 14 and add or alter the conditions for displaying the other user avatars. *Id.*

U.S. Patent No. 8,145,998 (“the ’998 patent”)

The ’998 patent, a “system and method for enabling users to interact in a virtual space, was filed on March 19, 2009 and issued on March 27, 2012. D. 275 ¶ 92; D. 274-5 at 1. Similar to claims in the ’501 patent, the claims in this patent achieve crowd control through filtering information by conditions. Worlds asserts Claim 18 here. D. 283 at 10. Claim 18 is a “system for displaying interactions in a virtual world among a local user and a plurality of remote users, comprising a database . . . ; a memory storing instructions and a processor programmed using instructions to receive position information [based on certain conditions], receive orientation information [based on certain conditions], generate on a graphic display a rendering of a perspective view of the virtual world in three dimensions [based on certain conditions], and change in three dimensions the perspective view of the rendering of the graphic display of the virtual world in response to user input.” D. 274-5 at 22-23.

B. Inter Partes Review before the PTAB

In May and June 2015, a third party, Bungie, Inc., filed a series of IPR petitions challenging the validity of the asserted claims of the Patents-In-Suit under 35 U.S.C. § 102 and 103. The Patent Trial and Appeal Board (“PTAB”) held six IPRs covering all forty claims asserted in this lawsuit before the stay, issuing final written decisions in all six proceedings. The PTAB determined that 34 of the claims were unpatentable: claim 1 of the ’856 patent, claims 1-3, 5-7, 10-12, 14, 15, 17 and 19 of the ’690 patent, claims 4, 6, 8 and 9 of the ’558 patent, claims 1, 18 and 20 of the ’998 patent, and claims 1-8, 10, 12, 14-16 of the ’501 patent. D. 273 at 8-9.

The PTAB determined that the petitioner did not demonstrate by a preponderance of evidence that claims 4, 8, 13 and 16 of the ’690 patent and claims 5 and 7 of the ’558 patent were invalid based on the evidence and arguments presented in the proceedings. *Id.* at 9. Worlds appealed the PTAB’s decisions regarding the ’856 patent (IPR2015-01264), the ’501 patent (IPR2015-01319) and the ’998 patent (IPR2015-01321). In *Worlds Inc. v. Bungie, Inc.*, 903 F.3d 1237 (Fed. Cir. 2018), the Federal Circuit vacated and remanded these final written decisions on procedural grounds, and without addressing the PTAB’s substantive findings. *Id.* On September 7, 2018, the Federal Circuit vacated and remanded Final Written Decisions in IPR2015-01264 (related to ’856 patent), IPR2015-01319 (related to ’501 patent) and IPR2015-01321 (related to ’998 patent) back to the PTAB. D. 283 at 15 (citing *Worlds*, 903 F.3d at 1237). On January 14, 2020, the PTAB issued a Termination Vacating Institutions and Dismissing Proceedings on Remand in IPR2015-01264 (related to ’856 patent), IPT2015-

01319 (related to '501 patent) and IPR2015-01321 (related to '998 patent). *Id.*

1. *PTAB findings*

The PTAB's IPR decision may be relied upon as persuasive authority before this Court. *Ultratec, Inc. v. Sorenson Comms., Inc.*, No. 14-cv-66-jdp, 2015 WL 5330284, at *14 (W.D. Wis. Sept. 11, 2015) (noting that the court was “not bound by the PTAB decision, but its reasoning is persuasive”); *DSS Tech. Mgmt., Inc. v. Apple, Inc.*, No. 14-cv-05330-HSG, 2015 WL 1967878, at *4 (N.D. Cal. May 1, 2015) (observing that “PTAB’s invalidity analyses ‘would likely prove helpful to this Court,’ whether or not the standard applied is identical to the one this Court must apply in the litigation.”) (quoting *Black Hills Media, LLC v. Pioneer Electronics (USA) Inc.*, No. CV 14-00471 SJO (PJWx), 2014 WL 4638170, at *6 (C.D. Cal. May 8, 2014)); *Black Hills*, 2014 WL 4638170, at *6 (noting that the “Court may also derive benefit from the PTAB’s claim construction for the patents under review” and that “[w]hile the PTAB interprets claim terms using the ‘broadest reasonable construction,’ 37 C.F.R. § 42.100(b), its analysis would likely prove helpful to this Court, no matter its final determination”); *CANVS Corp. v. United States*, 118 Fed. Cl. 587, 593 (2014) (observing that “even if [certain claims] were to survive PTAB review, the PTAB’s final decision sustaining these claims would contain analysis that would be helpful to the court”). Accordingly, although not bound by its findings or rulings, this Court may consider the PTAB findings as persuasive authority in determining whether the Patents-In-Suit are patent eligible.

With nineteen of the forty original asserted claims having been fully adjudicated, Worlds is asserting the

remaining twenty-one claims in this suit: claim 1 of the '856 patent, claims 4, 8, 13 and 16 of the '690 patent, claims 5 and 7 of the '558 patent, claims 1-8, 10, 12 and 14-16 of the '501 patent and claim 18 of the '998 patent. D. 269 at 2. Although now vacated, the substance of the PTAB's prior rulings serves to support the Court's analysis below that the client-side and server-side filtering of position information is not inventive. D. 274-7 (PTAB's Final Written Decision on the '856 patent); D. 274-8 (PTAB's Final Written Decision on the '501 patent); D. 274-9 (PTAB's Final Written Decision on the '998 patent).

C. Relevant Procedural History

On March 30, 2012, Worlds initiated this action. D. 1. The Court allowed Defendants' motion for summary judgment as to invalidity, D. 83, concluding that the Patents-In-Suit were not entitled to claim priority on November 13, 1995, the filing date of Worlds' Provisional Application. D. 124. Worlds has pressed the remaining infringement claims as to infringement from the issuance of the certificates of correction by the PTO. D. 127 at 2. After a Markman hearing, the Court constructed disputed claim terms in an Order issued June 26, 2015. D. 153. The parties then exchanged updated infringement and invalidity contentions. D. 160, 164. The Court issued a Scheduling Order on September 16, 2015, adopting the pretrial schedule proposed by the parties. D. 181. On December 16, 2015, the parties jointly moved to stay this proceeding pending resolution of the IPR petitions before the PTAB. D. 198. The Court allowed that motion and issued a stay and ordered periodic status updates. D. 201. Over the course of the next few years, while the IPR proceedings were ongoing, the parties filed periodic status reports and requests to extend

the stay, which the Court allowed. *See* D. 201 to 235. At the request of Worlds seeking a status conference, D. 239, and after briefing from the parties regarding the status of the matter, the Court held a status conference on April 16, 2020 and then set a further schedule for this case, including a deadline by which Activision could file the now pending motion. D. 262, 264. On May 19, 2020, Activision filed this motion for summary judgment that the remaining patent claims are invalid under 35 U.S.C § 101. D. 272. The Court heard arguments and took the matter under advisement. D. 286.

III. Standard of Review

A court will grant a moving party's motion for summary judgment when there is no genuine dispute of material fact and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(a). A dispute is genuine if "the evidence about the fact is such that a reasonable jury could resolve the point in favor of the nonmoving party," *Vélez-Rivera v. Agosto-Alicea*, 437 F.3d 145, 150 (1st Cir. 2006) (quoting *United States v. One Parcel of Real Prop.*, 960 F.2d 200, 204 (1st Cir. 1992)) (internal quotation marks omitted), and a fact is material if it is "one that might affect the outcome of the suit under the governing law." *Id.* (quoting *Morris v. Gov't Dev. Bank of P.R.*, 27 F.3d 746, 748 (1st Cir. 1994)) (internal quotation marks omitted). In resolving a motion for summary judgment, the Court scrutinizes the record in the light most favorable to the summary judgment opponent and draws all reasonable inferences to that party's advantage. *Alliance of Auto. Mfrs. v. Gwadosky*, 430 F.3d 30, 34 (1st Cir. 2005).

An issued patent is presumed valid. 35 U.S.C. § 282. This "statutory presumption of validity" applies when

a party challenges a patent under 35 U.S.C. § 101. *CLS Bank Intern. V. Alice Corp. Pty. Ltd.*, 717 F.3d 1269, 1284 (Fed. Cir. 2013). “[T]he burden is on the party challenging the validity of a patent to show that it is invalid by clear and convincing evidence.” *Minnesota Min. & Mfg. Co. v. Chemque, Inc.*, 303 F.3d 1294, 1301 (Fed. Cir. 2002); see *Budde v. Harley-Davidson, Inc.*, 250 F.3d 1369, 1376 (Fed. Cir. 2001). Consequently, “a moving party seeking to invalidate a patent at summary judgment must submit such clear and convincing evidence of invalidity so that no reasonable jury could find otherwise.” *Eli Lilly Co. v. Barr Labs., Inc.*, 251 F.3d 955, 962 (Fed. Cir. 2001). When facts associated with a patent invalidity are not in dispute, the court determines “whether summary judgment of invalidity is correct by applying the law to the undisputed facts.” *Myspace, Inc. v. GraphOn Corp.*, 672 F.3d 1250, 1257 (Fed. Cir. 2012) (citing *Tokai Corp. v. Easton Enters., Inc.*, 632 F.3d 1358, 1366 (Fed. Cir. 2011)). For the reasons stated below, the Court concludes, on this undisputed record, that the remaining patent claims are invalid as a matter of law under §101.

IV. Discussion

A. Patent Eligibility Under 35 U.S.C. § 101

1. *Legal Framework*

Under the Patent Act, “[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.” 35 U.S.C. § 101. The claims asserted here as to the Patents-In-Suit describe a “process,” defined as a “process, art or method, and includ[ing] a new use

of a known process, machine, manufacture, composition of matter, or material.” *Id.* § 100(b). Activision challenges that this process is patentable under § 101.

Under § 101, certain categories are not eligible for patent protection. *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980). “Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.” *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972). Although “too broad an interpretation of this exclusionary principle could eviscerate patent law,” since “all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas,” *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71 (2012), “monopolization of those tools [of scientific and technological work] through the grant of a patent might tend to impede innovation more than it would tend to promote it.” *Id.*

Mayo is instructive in this regard. In that case, the Supreme Court addressed the patent eligibility of claims covering processes that help doctors determine the appropriate dosage of thiopurine drugs for patients with autoimmune diseases. *Mayo*, 566 U.S. at 74-75. The claims described the relationships between the quantity of certain thiopurine metabolites in the blood and the likelihood that a drug would be ineffective or produce unwanted side effects. *Id.* at 74. More specifically, the patent claimed a process of administering a drug containing a metabolite to a subject and determining the subject’s level of that metabolite, where a certain reading of the metabolite would indicate the need to change the dose of the drug. *Id.* at 75.

The Supreme Court concluded that the patent was invalid under § 101 because the patent effectively claimed a law of nature, “namely, relationships between concentrations of certain metabolites in the blood and the likelihood that a dosage of a thiopurine drug will prove ineffective or cause harm.” *Id.* at 75. The Supreme Court reviewed each element in the patent beyond the recitation of this natural chemical relationship and then all the elements together to determine whether the claims added enough to qualify as a patent-eligible process “applying” a natural law. The “administering” step simply referred to a pre-existing audience of doctors treating patients with certain diseases. *Id.* at 77. The “wherein” clauses informed the doctor of the relevant natural laws: the relationships between the metabolite concentration in the blood and the necessary drug dosage adjustment. *Id.* The “determining” step instructed the doctor to measure the level of the relevant metabolite through any process of the doctor’s choosing. *Id.* Finally, the steps together amounted to “nothing significantly more than an instruction to doctors to apply the applicable laws when treating their patients.” *Id.* at 78. *Mayo* ruled each of these elements insufficient to transform the underlying natural law into something patentable: “the 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.” *Id.* at 80.

Even when a process involves a computer-generated process, it still may not be patent-eligible under § 101. In *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208 (2014), the Supreme Court ruled that a computerized scheme

for mitigating settlement risk was not patent eligible under § 101. As *Alice* framed the analysis in *Mayo*, a patent that claims a law of nature, natural phenomenon or an abstract idea is not patent eligible unless it has an element or combination of elements that provide an “inventive concept” beyond that law, phenomenon or abstract idea. *Id.* at 216. If in the first step, the patent claims a law of nature, natural phenomenon or an abstract idea, in the second step, a court proceeds to the “search for an ‘inventive concept’—i.e., an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself.’” *Id.* at 217-18 (quoting *Mayo*, 566 U.S. at 74–77). In *Alice*, the Supreme Court applied this two-step analysis to a patent claiming a method of using a third party to mitigate settlement risk. *Id.* at 213–214. In doing so, the court concluded that the claims were directed to the abstract idea of intermediated settlement and proceeded to consider whether the elements of the claim, either individually or in combination, were sufficient to transform the claims into a patentable invention. *Id.* at 216–218. Ruling that the “claims at issue amount to nothing significantly more than an instruction to apply the abstract idea of intermediated settlement using some unspecified, generic computer,” the Supreme Court held the patent invalid for want of an inventive concept. *Id.* at 225. Like *Mayo*, the claim elements were well-understood, routine and conventional activities known in the industry. *Id.* “[E]ach step does no more than require a generic computer to perform generic computer functions.” *Id.* The claims do “nothing significantly more” than “instruct to apply the abstract idea of intermediated settlement using some unspecified, generic computer.” *Id.* at 226.

Also as in *Mayo*, *Alice* distinguished the patent held to be patent eligible in *Diamond v. Diehr*, 450 U.S. at 175 (1981). The patent in *Diehr* claimed a method for molding raw rubber into cured products using a mathematical formula. *Alice*, 573 U.S. at 223 (citing *Diehr*, 450 U.S. at 177-78). The rubber-molding method in *Diehr* was patentable: because it employed a “well-known” mathematical equation, but it used that equation in a process designed to solve a technological problem in “conventional industry practice.” *Id.* (quoting *Diehr*, 450 U.S. at 177-178). The invention in *Diehr* used a “thermocouple” to record constant temperature measurements inside the rubber mold—something “the industry ha[d] not been able to obtain.” *Id.* at 178. The temperature measurements were then fed into a computer, which repeatedly recalculated the remaining cure time by using the mathematical equation. *Id.* at 178–79. These additional steps, “transformed the process into an inventive application of the formula.” *Alice*, 573 U.S. at 223 (quoting *Mayo*, 566 U.S. at 76).

The parties do not dispute that the claims that Activision focuses upon in its motions, claim 1 of ’856 patent, claim 4 of the ’690 patent, claim 1 of the ’501 patent, and claim 18 of the ’998 patent are representative claims of those that remain. D. 281 at 7 n.3; see D. 276 at 8. Since Worlds in its opposition focuses on claim 4 of the ’690 patent, D. 276 at 8, the Court does so here. Claim 4 of the ’690 patent, D. 274-01, provides as follows:

1. A method for enabling a first user to interact with other users in a virtual space, wherein the first user and the other users each have an avatar and a client process associated therewith, and wherein each client

process is in communication with a server process, wherein the method comprises:

- (a) receiving a position of less than all of the other users' avatars from the server process; and
- (b) determining, from the received positions, a set of the other users' avatars that are to be displayed to the first user, wherein steps (a) and (b) are performed by the client process associated with the first user.

* * *

4. The method of claim 1, wherein step (lb) comprises (b)(1) determining from the received positions an actual number of the other users' avatars;

(b)(2) determining a maximum number of the other users' avatars to be displayed; and

(b)(3) comparing the actual number to the maximum number to determine which of the other users' avatars are to be displayed wherein steps (b)(1)-(b)(3) are performed by the client process associated with the first user.

2. Step One: Claims are Directed to an Abstract Idea

As noted above, the first step in the § 101 analysis asks, "whether the claims at issue are directed to one of [the] patent-ineligible concepts," namely laws of nature, natural phenomena, or abstract ideas. *Alice*, 573 U.S. 208, 216. The parties dispute whether

World's patents are directed to patent-ineligible concepts, namely the abstract idea of "filtering" (here of "position information") which amounts to "crowd control." D. 276 at 6; D. 281 at 2 n.2. Worlds contends that their claims are "directed to a novel client-server computer network architecture for 3-D virtual worlds." *Id.* This description alone does not convert the patents into patent-eligible inventions. This Court's Markman Order acknowledged that the claims, including the representative '690 patent claim, are designed to accomplish crowd control through filtering (i.e., the "determining" and "receiving" steps), D. 153 at 8-10, *See. e.g.*, D. 274-1 at 5, 13. Worlds maintained its position in this case, D. 281 at 5 (citing Worlds in D. 68 at 4) and in the IPR proceedings that its patents were directed at a method of "crowd control" and that these claims are the filtering function to do so. D. 273 at 15-16 (citing Worlds' statements and filings before PTAB).

Such filtering is, as Activision asserts, "a fundamental and well-known concept for organizing human activity," and is patent ineligible. D. 273 at 16; *see Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1348 (Fed. Cir. 2016) (agreeing, under step one of the *Mayo/Alice* analysis that "filtering content is an abstract idea because it is a longstanding, well-known method of organizing human behavior, similar to concepts previously found to be abstract"). That is, "the claims do nothing more than recite a general client-server computer architecture to perform routine functions of filtering information to address the generic problem of crowd control." D. 281 at 2.

Such conclusion is consistent with the first-step analysis in *Mayo* and *Alice* and the rulings in other

patent cases involving filtering information claims. These claims, like those in *Mayo*, involve a natural phenomenon, that is achieving crowd control thru the filtering of information. As the representative claim, the receiving step of claim 4 of the '690 patent is about receiving position information and the determining step tells the relevant audience to determine the maximum number by whatever method and the comparing is to compare the actual number to the determined maximum number to determine which of the other users' avatars are displayed. The steps are open-ended and instruct the audience to "engage in well-understood, routine, conventional activity." *Mayo*, 566 U.S. at 79. That is, "to consider the three steps as an ordered combination adds nothing to the laws of nature that is not already present when the steps are considered separately." *Id.* This is true whether focusing on the "maximum number" claims as in the '690 patent and '558 patent, or the "fewer than all" claim in the '856 patent or the "condition" steps in the '501 patent and the '998 patent.

The rulings in other cases support this conclusion as well. For one example, in *Fuzzzysharp Techs. Inc. v. Intel Corp.*, No. 12-cv-4413, 2013 WL 5955668, at *13 (N.D. Cal. Nov. 6, 2013), *aff'd*, 595 F. Appx 996 (Fed. Cir. 2015), the court addressed claims that stated a method "for reducing the visibility related computation calculations in a certain field of use (such as '3-D computer graphics') followed by method steps to perform the reduction." *Id.* at *11. The court there held that the claims were directed to an abstract idea as the patent purported to cover all applications of such filtering in the field of 3D computer graphics. *Id.* at *11. For another example, in *Intellectual Ventures II LLC v. JP Morgan Chase & Co.*, No. 13-cv-3777, 2015 WL 1941331, at *8 (S.D.N.Y. Apr. 28, 2015), the court

considered a patent for a method for filtering a packet of information based upon the contents of two or more such packets. *Id.* at *1. The court in that case concluded that the asserted claims were patent ineligible at step 1 of the *Mayo/Alice* analysis for three reasons. First, the claim amounted to a “mental process” for filtering a packet of information and does not provide anything “concrete” to make it patent eligible. *Id.* Second, the claim was broad enough to raise “concerns of preemption.” *Id.* Since it is not limited to a particular application, but “covers *all* network filtering by *any* firewall on *any* computer network where an access rule is chosen based upon the data of multiple packets. *Id.* (emphasis in original). Third, the patent fails the “machine-or-transformation” test as it is “neither limited to a particular machine or apparatus, nor does it result in the transformation or creation of an article.” *Id.* at 9. Crowd control in the claims here is an abstract idea similar to those abstract ideas found to be patent ineligible in step one of the *Mayo/Alice* analysis in these cases. The type of “maximum capacity” filter employed in claim 4 of the ’690 patent, the representative claim,¹ is directed to solving the problem of crowd control by teaching a

¹ This is true of all of the remaining claims. Claim 1 of the ’856 patent filters position information for “fewer than all” of the avatars, D. 274-3 at 24. Like claim 4 of the ’690 patent, the remaining claims of the ’558 patent are directed to filtering information at a maximum value. D. 274-2 at 14. The claims in the ’501 patent and the ’998 patent achieve the filtering by a set of conditions that governs what position information the client receives. D. 274-4 at 23 (’501 patent); D. 274-5 at 22-23 (’998 patent). The use of “fewer than all” or “conditions” for the filtering in these claims, however, does not make the claims any less of an abstract idea than the claim 4 of the ’690 claim as discussed above.

computer network architecture to enable multiple users to interact, D. 276 at 7, is an abstract idea, analogous to real-world maximum capacity limits on elevators, at restaurants and other physical spaces typically open to the public.

3. *Step Two: Inventive Concept*

Accordingly, the dispositive issue here is at step 2 of the *Mayo/Alice* analysis: “do the patent claims add *enough* to their statements of the [natural laws and phenomena] to allow the processes they describe to qualify as patent-eligible processes that *apply* natural laws?” *Mayo*, 566 U.S. at 74 (emphasis in original). The Court must consider the elements of each asserted claim individually and as an ordered combination of elements to determine if the claim contains a patentable inventive concept. *Id.* at 74–75. The asserted claims are said to “teach a multistep process whereby a server receives position information of avatars associated with network clients; the server filters the received positions and then sends selected packets to each client,” whereby a client can then further determine which avatars to display. *See* D. 276 at 18. Worlds argues that the Patents-In-Suit teach a specific approach to a computer network architecture that includes an inventive concept. D. 276 at 17.

The Court does not agree with Worlds that the Patents-In-Suit add the requisite inventive concept even when considering the elements or the ordered combination of elements of each claim. As in *Fuzzysharp*, 2013 WL 5955668, at *11-12, the claims lack limitation to any specific application, do not add any steps other than “conventional ‘post-solution’ activity to the abstract formula described” and “that the method is to be used on conventional computer components does not make the abstract formula

patentable.” *Id.* Similarly, in *Intellectual Ventures II LLC*, 2015 WL 1941331, at *9, even considering each of the elements of one of the patents at issue there, the first step merely described the form of information “conventionally sent to a firewall” and the second step “simply calls for ‘generic computer implementation’ of the process,” *id.*, neither of which provide the inventive concept to convert the abstract idea into a patent eligible process.² The steps of the claims here use only “generic functional language to achieve the purported solution” of filtering of position information for crowd control. *See Two-way Media, Ltd. V. Comcast Cable Comms. LLC*, 874 F.3d 1329, 1339 (Fed. Cir. 2017). None of the remaining claims are limited to “any specific form or implementation of filtering,” D. 281 at 6, and involve generic computer components,

² The ruling as in *Bascom*, 827 F.3d at 1350, does not warrant another result here. There, the Federal Circuit ruled at step 2 of the *Mayo/Alice* analysis that the “installation of a filtering tool at a specific location, remote from the end-users, with customizable filtering features specific to each end user” provided the necessary, inventive concept. *Id.* That is not the case here. The method outlined here, as represented by claim 4 of the ’690 patent, cannot be said to be as specific. Particularly, claim 4 provides for a method performed by the client process associated with the first user that receives a position of less than all of the other users, determines “a maximum number of the other users’ avatars to be displayed,” and then compares “the actual number to the maximum number to determine which of the other users’ avatars are to be displayed.” D. 274-1. While the “filtering” of the maximum number of other users’ avatars to be displayed involves the client process associated with the first user, no language in the claim suggests that this is done through any sort of “customizable filtering features specific to each end user,” but rather through a generically stated determination of the maximum number of the other users’ avatars to be displayed. This claim, like the other remaining claims, is distinguishable from the inventive concept that the court found in *Bascom*.

D. 281 at 12. Moreover, there is nothing in the ordering of the steps in the claims (i.e., receiving, determining, comparing) that make them inventive; the “steps are organized in a completely conventional way.” *Id.* at 1341; see *Glasswall Solutions Ltd. v. Clearswift Ltd.*, 754 F. Appx. 996, 999 (Fed. Cir. 2018) (concluding under step 2 of the *Mayo/Alice* analysis that the claims “recite steps that do not amount to anything more than an instruction to apply the abstract idea of filtering nonconforming data and regenerating a file without it, plus the generic steps needed to implement the idea”).

Contrary to Worlds’ suggestion otherwise, the restriction against patenting abstract concepts “cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Mayo*, 566 U.S. at 79. That is, the fact that the claims at issue relate and apply to the technological environment of a three-dimensional virtual world, does not necessarily make the process inventive. See *Bascom*, 827 F.3d at 1349 (noting that the requisite inventive concept “cannot simply be an instruction to implement or apply the abstract idea on a computer”). Client-server networks, virtual worlds, avatars, or position and orientation information are not inventions of Worlds but rather, their patents seek to demonstrate their use in a technological environment. D. 273 at 13; see *Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1338 (Fed. Cir. 2013) (involving claims with generic computer elements found to be invalid). That is, Worlds’ asserted claims use a general-purpose computer to employ well known filtering or crowd control methods and means that ultimately use same to display graphical results and generate a view of the virtual world, none of which is inherently inventive or sufficient to

‘transform’ the claimed abstract idea into a patent-eligible application. *Alice*, 573 U.S. at 211. For all these reasons, the remaining claims do not involve the inventive concept necessary to convert the abstract idea into a patent eligible process,³ and they are, therefore, invalid as a matter of law under 35 U.S.C. § 101.

V. Conclusion

For the foregoing reasons, the Court **ALLOWS** Activision’s motion for summary judgment, D. 272.

So Ordered.

/s/ Denise J. Casper

United States District Judge

³ This is true not just true of claim 4 of the ’690 as the representative claim, but also of the other remaining claims including those claims that teach filtering of position information by “fewer than all” or conditions on the filtering which, when considered per claim as individual elements or an ordered combination of elements, do not provide the necessary inventive concept.

APPENDIX B

NOTE: This disposition is nonprecedential.

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

[Filed March 10, 2022]

2021-1990

WORLDS INC.,
Plaintiff-Appellant,
v.

ACTIVISION BLIZZARD INC.,
BLIZZARD ENTERTAINMENT, INC.,
ACTIVISION PUBLISHING, INC.,
Defendants-Appellees.

Appeal from the United States District Court
for the District of Massachusetts in
No. 1:12-cv-10576-DJC,
Judge Denise J. Casper.

WAYNE MICHAEL HELGE, Davidson Berquist Jackson
& Gowdey, LLP, McLean, VA, argued for plaintiff-
appellant. Also represented by ALDO NOTO, JAMES
THOMAS WILSON.

KEVIN SCOTT PRUSSIA, Wilmer Cutler Pickering Hale
and Dorr LLP, Boston, MA, argued for defendants-
appellees. Also represented by SONAL NARESH MEHTA,
JENNIFER JASMINE JOHN, Palo Alto, CA.

25a

JUDGMENT

THIS CAUSE having been heard and considered, it is ORDERED and ADJUDGED:

PER CURIAM (MOORE, *Chief Judge*, CHEN and HUGHES, *Circuit Judges*).

AFFIRMED. See Fed. Cir. R. 36.

ENTERED BY ORDER OF THE COURT

March 10, 2022
Date

/s/ Peter R. Marksteiner
Peter R. Marksteiner
Clerk of Court