Nos. 2022-1600, 2022-1709

United States Court of Appeals for the Federal Circuit

MIRROR WORLDS TECHNOLOGIES, LLC,
Plaintiff-Appellant,

v.

META PLATFORMS, INC.,
Defendant-Cross-Appellant

Appeals from the United States District Court for the Southern District of New York in No. 1:17-cv-03473-JGK, Judge John G. Koeltl

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July 31, 2023

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

CERTIFICATE OF INTEREST

Case Number 2022-1600, 2022-1709

Short Case Caption Mirror Worlds Technologies, LLC v. Meta Platforms, Inc.

Filing Party/Entity Defendant-Cross Appellant Meta Platforms, Inc.

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1. Represented Entities. Fed. Cir. R. 47.4(a)(1).	**2. Real Party in Interest.** Fed. Cir. R. 47.4(a)(2).	**3. Parent Corporations and Stockholders.** Fed. Cir. R. 47.4(a)(3).
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Meta Platforms, Inc. (formerly Facebook, Inc.)	N/A	N/A

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TABLE OF CONTENTS

I. INTRODUCTION 1

II. CROSS-APPEAL REPLY ARGUMENT 2

A. The Prior PTAB and District Court Decisions Are Immaterial and Incorrect 2

B. The Asserted Claims Are Directed to an Abstract Idea 4

1. The District Court Correctly Found Claim 13 of the '227 Patent Was Representative of All Asserted Claims 4

2. The Asserted Claims Are Not Directed To Technical Improvements To the Computer Itself 6

3. The Asserted Claims Are Directed To the Abstract Idea of Organizing Information in a Time-Ordered Manner 11

4. Mirror Worlds' Cited Cases Are Distinguishable 13

C. The Asserted Claims Recite No Inventive Concept 16

III. CONCLUSION 17

TABLE OF AUTHORITIES

Cases **Page(s)**

Aatrix Software v. Green Shades Software,
882 F.3d 1121 (Fed. Cir. 2018) 15, 16

Affinity Labs of Tex. v. DIRECTV,
838 F.3d 1253 (Fed. Cir. 2016) 11

Alice Corp. Pty. v. CLS Bank Int'l,
573 U.S. 208 (2014).....*passim*

Am. Axle & Mfg. v. Neapco Holdings,
967 F.3d 1285 (Fed. Cir. 2020) 4

Ancora Technologies v. HTC America,
908 F.3d 1343 (Fed. Cir. 2018) 14, 15

Apple v. Ameranth,
842 F.3d 1229 (Fed. Cir. 2016) 9

Apple v. Mirror World Technologies,
No. CBM2016-00019, Paper 12 (P.T.A.B. May 26, 2016).....2

In re Bd. of Trs. Of Leland Stanford Junior Univ.,
991 F.3d 1245 (Fed. Cir. 2021) 4

BSG Tech v. BuySeasons,
899 F.3d 1281 (Fed. Cir. 2018) 2, 3m 16, 17

ChargePoint v. SemaConnect,
920 F.3d 759 (Fed. Cir. 2019) 3

Content Extraction & Transmission v. Wells Fargo Bank,
776 F.3d 1343 (Fed. Cir. 2014) 9

Customedia Techs. v. Dish Network,
951 F.3d 1359 (Fed. Cir. 2020) 6, 10, 16

Elec. Power Grp. v. Alstom S.A.,
830 F.3d 1350 (Fed. Cir. 2016) 2, 5, 9, 12, 13

Enfish v. Microsoft,
822 F.3d 1327 (Fed. Cir. 2016) 13, 14

Ericsson v. TCL Commc'n Tech. Holdings,
955 F.3d 1317 (Fed. Cir. 2020) 7

Fast 101 Pty v. CitiGroup,
834 F. App'x 591 (Fed. Cir. 2020) 5

Hawk Tech. Sys. v. Castle Retail,
60 F.4th 1349 (Fed. Cir. 2023) 12

Interval Licensing v. AOL,
896 F.3d 1335 (Fed. Cir. 2018) 8, 12

In re Killian,
45 F.4th 1373 (Fed. Cir. 2016) 11, 12

Koninklijke KPN N.V. v. Gemalto M2M GmbH,
942 F.3d 1143 (Fed. Cir. 2019) 14

Mentone Solutions v. Digi International Inc.,
No. 2021-1202, 2021 WL 5291802 (Fed. Cir. Nov. 15, 2021) 15

Mirror Worlds Technologies v. Apple,
No. 13-CV-419, 2015 WL 6750306 (E.D. Tex. July 7, 2015) 3

People.ai v. Clari,
No. 2022-1364, 2023 WL 2820794 (Fed. Cir. Apr. 7, 2023) 11

Sensormatic Elecs. v. Wyze Labs,
No. 2020-2320, 2021 WL 2944838 (Fed. Cir. July 14, 2021) 5

Simio v. FlexSim Software Prods.,
983 F.3d 1353 (Fed. Cir. 2020) 10, 17

Smart Sys. Innovations v. Chicago Transit Auth.,
873 F.3d 1364 (Fed. Cir. 2017) 13

Synopsys v. Mentor Graphics,
839 F.3d 1138 (Fed. Cir. 2016) 7

In re TLI Commc'ns Pat. Litig.,
823 F.3d 607 (Fed. Cir. 2016) 12

Trinity Info Media v. Covalent,
No. 2022-1308, 2023 WL 4536366 (Fed. Cir. July 14, 2023) 2, 3, 6

Ultramercial v. Hulu,
772 F.3d 709 (Fed. Cir. 2014) 13

Uniloc USA v. LG Electronics USA,
957 F.3d 1303 (Fed. Cir. 2020) 14

Weisner v. Google,
51 F.4th 1073 (Fed. Cir. 2022) 10

Other Authorities

Fed. R. Civ. P. 12 3

I. INTRODUCTION

None of Mirror Worlds' arguments can overcome the plain language of the claims themselves – the decisive issue for § 101. Mirror Worlds spends much of its brief lauding incorrect prior decisions by the PTAB and district courts, but those decisions are neither binding nor persuasive, and are entitled to no deference for the present issue of law reviewed *de novo*. The claims are directed to nothing more than organizing information in a time-ordered manner, with no inventive concept.

The claims address the very human and longstanding problem of how to organize information so that it can be easily found. The claims address this problem using an equally human solution of organizing information in time order, as opposed to other known organizational techniques such as alphabetical ordering, use of hierarchical categories, and others. As the patent specification declares, "[t]ime is the attribute that comes closest to a universal skeleton-key for stored experience." (Appx75, '227, 4:22-23.) The patents here merely recognize that when storing files on a computer – instead of papers in a file cabinet – storing information in chronological order might make it easier for the user to find later. The claims do not recite any features that improve the operation of the computer in any way, or provide anything meaningful that distinguishes the claims from the abstract idea to which they are directed. At best, the human's experience might be changed but the computer itself is not improved.

II. CROSS-APPEAL REPLY ARGUMENT

A. The Prior PTAB and District Court Decisions Are Immaterial and Incorrect

Mirror Worlds makes much of the prior PTAB and district court decisions (Yellow Br. 36-42), but those decisions are not persuasive. With the exception of the district court decision below, the prior district court and PTAB decisions cited by Mirror Worlds issued more than seven years ago and thus did not have the benefit of the enormous amount of intervening guidance provided by this Court, including dozens of precedential decisions finding software-related and computer-based claims invalid under § 101. (Red. Br. 68 (citing cases).)

For example, in *Apple v. Mirror World Technologies*, No. CBM2016-00019, Paper 12 (P.T.A.B. May 26, 2016), the PTAB employed what can best be described as an antiquated § 101 analysis. In finding that the claims of the '227 patent were not directed to an abstract idea, the PTAB emphasized that the claims "cannot be performed entirely by the human mind or with pen or paper," and that "the steps of the claims specifically call for operations that must be performed by a computer." *Id.* at 15-16. But this Court has made crystal clear, in numerous cases decided after the PTAB decision, that mere involvement of a computer is insufficient to overcome a patent ineligibility challenge under § 101. *E.g.*, *Elec. Power Grp. v. Alstom S.A.*, 830 F.3d 1350, 1353-55 (Fed. Cir. 2016); *BSG Tech v. BuySeasons*, 899 F.3d 1281, 1286-87 (Fed. Cir. 2018); *Trinity Info Media v. Covalent*, No. 2022-1308, 2023 WL

4536366, at *6 (Fed. Cir. July 14, 2023) ("Likewise, Trinity's asserted claims can be directed to an abstract idea even if the claims require generic computer components or require operations that a human could not perform as quickly as a computer.").

And the district court's decision in *Mirror Worlds Technologies v. Apple*, No. 13-CV-419, 2015 WL 6750306 (E.D. Tex. July 7, 2015), actually reached an opposite conclusion of the PTAB by finding that the claims of the '227 patent were directed to an abstract idea under Step One. *Id.* at *8 ("After removing these plainly identifiable and divisible limitations, the Court finds that claim 13 is directed to the abstract idea of organizing data units on a computer."). Contrary to Mirror Worlds' arguments (Yellow Br. 37-38), the Texas court did not find the claims eligible at Step Two. It merely denied a Rule 12 motion "at the pleading stage," without prejudice to "re-file" at summary judgment. *Apple*, 2015 WL 6750306, at *9-10.

The key flaw with the PTAB decision, the Step Two dicta in the Texas decision, and the district court decision below, was their failure to focus on the actual language of the claims in determining whether the claims recite a technological improvement, as this Court's precedents require. *E.g.*, *ChargePoint v. SemaConnect*, 920 F.3d 759, 769-70 (Fed. Cir. 2019). Glaringly absent from Mirror Worlds' discussion of the prior decisions – as well as from the entirety of Mirror Worlds' brief – is any explanation as to how the *asserted claims* provide any kind of

technological improvement to the computer itself.

B. The Asserted Claims Are Directed to an Abstract Idea

1. The District Court Correctly Found Claim 13 of the '227 Patent Was Representative of All Asserted Claims

The district court correctly determined that "claim 13 of the '227 patent is representative of all the asserted claims for purposes of the § 101 analysis." (Appx22-23 n.6.) Mirror Worlds does not identify any error in the district court's determination, and its arguments on this issue should be rejected.

First, Mirror Worlds waived this issue by failing to raise any argument before the district court. Facebook specifically argued, in its motion for summary judgment of § 101 before the district court, that claim 13 of the '227 patent was representative with respect to all of the asserted patents. (Appx7448-7449.) Mirror Worlds did not dispute this assertion or otherwise argue to the district court that claim 13 is not properly representative. (Red Br. 60 n.6; Appx7448-7449; *In re Bd. of Trs. Of Leland Stanford Junior Univ.*, 991 F.3d 1245, 1251 (Fed. Cir. 2021) (patentee forfeited argument not raised in district court; "we will not consider it for the first time on appeal"); *Am. Axle & Mfg. v. Neapco Holdings*, 967 F.3d 1285, 1299 (Fed. Cir. 2020) (waiver).)

Second, even if Mirror Worlds had preserved a challenge to the district court's finding that claim 13 was representative, Mirror Worlds does not meaningfully dispute that the other asserted claims are substantially similar and linked to the same

basic subject matter: organizing information in a time-ordered manner. (*See* Appx81, '227, claims 13, 14, 17; Appx112, '538, claim 1; Appx137, '439, claim 1; Appx130, '439, 1:66-2:3 (time-ordered streams); Appx1407; Appx1411; Appx1445; Appx1448-1453; Appx1403 (describing specifications for '538 and '439 patents); Yellow Br. 55 (arguing that the claimed idea is to "organize data using chronologically-ordered streams").) The '538 and '439 specifications incorporate the '227 specification. (Appx105, '538, 1:7-16; Appx130, '439, 1:7-17.) The district court therefore correctly treated '227 claim 13 as representative. *Sensormatic Elecs. v. Wyze Labs*, No. 2020-2320, 2021 WL 2944838, at *4 (Fed. Cir. July 14, 2021) (finding "no fault with the court's representative claim determination"); *Fast 101 Pty v. CitiGroup*, 834 F. App'x 591, 592 (Fed. Cir. 2020) (claim 1 was "representative of all 234 asserted claims" across five patents).

Mirror Worlds also fails to "present[] any meaningful argument for the distinctive significance of any claim limitations other than those included in" the representative claim. *Elec. Power Grp.*, 830 F.3d at 1352. It points only to the "glance view" feature in the asserted '538 and '439 claims (Yellow Br. 47), but fails to demonstrate how this feature changes the focus of those claims. The "glance view" feature recites nothing more than a high-level desired functional result for displaying time-ordered content. (*See* Appx112, '538, claim 1; Appx137, '439, claim 1.) The claims describe the claimed glance view as merely providing "an

abbreviated version of the document … and being indicative of content thereof." (Appx112, '538, 16:59-60; *see also* Appx138, '439, 17:39-41.) The glance view feature provides little more than the computer-based equivalent of a human being partially pulling out a document from a stack of papers to reveal a preview or portion of its content. This feature does not change the abstract idea of organizing information in a time-ordered manner to which the claims are directed. (*E.g.*, Appx105, '538, 2:50-54 ("Time-order together with browsing through the stream (*and its glance views*) makes it possible to glance quickly through the documents that are from the approximate time of interest and quickly pull out the right one.") (emphasis added); *see also* Appx1461-1464 (claim construction expert testimony); Appx8545 (proposed constructions); Appx8529-8530 (file history); Appx8635-8638 (glance views); *Trinity Info Media*, 2023 WL 4536366, at *5 (additional elements in dependent claims such as "a match aggregator" and "trivial variations of the abstract idea" did not change the "focus" of the claims).)

2. The Asserted Claims Are Not Directed To Technical Improvements To the Computer Itself

Mirror Worlds does not dispute this Court's dispositive precedent: "To be a patent-eligible improvement to computer functionality, we have required the claims to be directed to an improvement in the functionality of the computer or network platform itself." *Customedia Techs. v. Dish Network*, 951 F.3d 1359, 1364 (Fed. Cir. 2020). Nowhere does Mirror Worlds identify anything *recited in the*

claims that *improves the underlying computer itself*. The asserted claims "do not enable computers to operate more quickly or efficiently, nor do they solve any technological problem." *Id.* at 1365. Nowhere does any asserted claim provide that the computer itself is improved by storing information in time-order rather than hierarchically—just as a metal file cabinet is not affected by storing paper files in chronological order rather than grouping the paper files hierarchically.

With no patent-eligible improvement in the asserted claims themselves, Mirror Worlds discusses the background section of the specification. (Yellow Br. 43-44.) But the "§ 101 inquiry must focus on the language of the Asserted Claims themselves." *Synopsys v. Mentor Graphics*, 839 F.3d 1138, 1149 (Fed. Cir. 2016); *Ericsson v. TCL Commc'n Tech. Holdings*, 955 F.3d 1317, 1328 (Fed. Cir. 2020) ("cannot [] import details from the specification" if not claimed) (citation omitted).

The few instances that Mirror Worlds briefly attempts to address the actual claim language only further highlight the abstractness of the idea to which the claims are directed. (Yellow Br. 44-45, 51.) For example, Mirror Worlds points to the claimed recitation of "timestamps," but this merely reflects the concept of time-ordering. The term "timestamp" itself borrows from the age-old use of an ink stamp on paper indicating a current date and time. As explained in Facebook's opening brief, the inventors freely admitted that they did not invent "timestamps," let alone the ability to store and order documents based on timestamps. (Red. Br. 70.)

Similarly, the claimed "main stream" and "substream" (Yellow Br. 44-45, 51) are nothing more than basic building blocks of grouping information into a time-ordered sequence of information ("main stream"), which can be further filtered down into a subset of such information ("substream"). (Appx8542-8545; Appx75, '227, 4:6-10 ("A 'stream' according to the present invention is a time ordered sequence of documents that functions as a diary of a person or an entity's electronic life. Every document created and every document send [sic; sent] to a person or entity is stored in a main stream.").)

Likewise, the "glance view" feature recited in the '439 and '538 patents, as noted previously, recites a high-level idea for previewing the time-ordered content—an "abbreviated version of the document and indicative of content thereof"—which is never shown (and never even asserted) to improve the underlying computer itself. (Yellow Br. 44-45; Appx137, '439, claim 1; Appx112, '538, claim 1.) Nothing patent-eligible arises from the desired functional result of displaying a summary of the time-ordered information, much like Post-Its or photos summarizing time-ordered paper files in a cabinet. *Interval Licensing v. AOL*, 896 F.3d 1335, 1345 (Fed. Cir. 2018) ("collection, organization, and display of two sets of information on a generic display device is abstract ….").

Mirror Worlds never meaningfully disputes that the asserted claims reflect the same basic processes people have employed for centuries in the paper-based world.

(*Cf.* Yellow Br. 58 (admitting that "the order in which the steps are performed" is not "inventive").) Mirror Worlds does not dispute, and cannot dispute, that people have been organizing information in a time-ordered manner for centuries, such as in diaries, business records, and courts among countless other examples. *Elec. Power Grp.*, 830 F.3d at 1354 ("[W]e have treated analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category."); *Content Extraction & Transmission v. Wells Fargo Bank*, 776 F.3d 1343, 1347 (Fed. Cir. 2014) ("The concept of data collection, recognition, and storage is undisputedly well-known. Indeed, humans have always performed these functions.").

For these reasons, there is no merit to Mirror Worlds' contention that the claimed idea is "necessarily rooted in computer technology." (Yellow Br. 53-54.) The idea of ordering information in a time-ordered manner is a well-known and familiar concept from everyday life. The asserted claims simply take that idea and "do it on a computer." *Apple v. Ameranth*, 842 F.3d 1229, 1243 (Fed. Cir. 2016) (citing *Alice Corp. Pty. v. CLS Bank Int'l*, 573 U.S. 208, 222-23 (2014)).

Indeed, Mirror Worlds' assertions about the alleged benefits of time-ordering only further demonstrate that the claims do not address "computer-specific problems," but merely borrow solutions derived from longstanding human experience. (Yellow Br. 44.) For example, the supposed reduction in "overhead"

achieved by organizing information in a time-ordered manner is not an improvement to the function of the ***computer*** – it instead refers to the ***user*** not needing to spend extra time naming files or choosing locations to store files. Time ordering, as the district court observed, "allows the user to avoid the 'unneeded overhead' of naming a file and choosing a storage location," as discussed in the Background of the patent. (Appx19; Appx74, 1:42-44; Appx74, 1:52-56 ("'Naming' a file when created and choosing a location in which to place the file is unneeded overhead; when a person grabs a piece of paper and starts writing, no one demands that a name be bestowed on the sheet or that a storage location be found."); Yellow Br. 40, 43, 46, 51.)

It is well-settled that merely improving a user's experience does not confer patent eligibility under § 101. (Red. Br. 66-67; *Customedia*, 951 F.3d at 1365; *Simio v. FlexSim Software Prods.*, 983 F.3d 1353, 1361 (Fed. Cir. 2020).) Moreover, the same user-centric benefits of time-ordering identified by Mirror Worlds have long existed in the world of paper files, because storing paper files in chronological order can relieve a human being of having to name the files or organize them within hierarchical folders. This in turn allows the human to later locate and retrieve the files based on their time and/or date rather than having to remember their names or locations within hierarchical folders. (Appx8557; Appx17996; Appx8548-8560 (time-ordering is an age-old idea); *Weisner v. Google*, 51 F.4th 1073, 1082-83 (Fed. Cir. 2022) ("Automation or digitization of a conventional method of

organizing human activity… does not bring the claims out of the realm of abstractness."); *People.ai v. Clari*, No. 2022-1364, 2023 WL 2820794, at *9 (Fed. Cir. Apr. 7, 2023) ("Although the claimed automation of sorting correspondence may improve speed and accuracy, this improvement comes from replacing a human with a computer in that sorting procedure.").)

3. The Asserted Claims Are Directed To the Abstract Idea of Organizing Information in a Time-Ordered Manner

Mirror Worlds effectively admits that the core focus of its claims is a high-level idea for time-ordering information—to "organize data using chronologically-ordered streams rather than hierarchical file structures." (Yellow Br. 55.) Yet Mirror Worlds suggests that Facebook oversimplifies the claims. (Yellow Br. 42, 49.) Not so. As the Court is well aware, *Alice* Step One requires the Court to determine whether the claims are "directed to" a patent-ineligible concept, such as an abstract idea. *Alice*, 573 U.S. at 217. Here, the claims bear all the familiar hallmarks of impermissible abstraction under this Court's precedent. The "focus of the claimed advance over the prior art" is an idea for organizing information—specifically, organizing information in a time-ordered manner rather than based on names or hierarchies, which is an abstract idea mirroring longstanding human activity. *In re Killian*, 45 F.4th 1373, 1382 (Fed. Cir. 2016) (quoting *Affinity Labs of Tex. v. DIRECTV,* 838 F.3d 1253, 1257 (Fed. Cir. 2016)). The Court "distinguishe[s] between claims 'directed to an improvement in the functioning of a

computer,' versus those, like the claims at issue here, that simply recite 'generalized steps to be performed on a computer using conventional computer activity.'" *In re Killian*, 45 F.4th at 1380 (quoting *In re TLI Commc'ns Pat. Litig.,* 823 F.3d 607, 612 (Fed. Cir. 2016)). The claims "simply demand[] the production of a desired result"—generating and maintaining time-ordered main streams and substreams and related functional aspirations—"without any limitation on *how* to produce that result" such as innovative physical structures or specific programming algorithms. *In re Killian*, 45 F.4th at 1382 (emphasis added) (quoting *Interval Licensing,* 896 F.3d at 1345. The claims' notion of "gathering and analyzing information of a specified content, then displaying the results without any particular assertedly inventive technology for performing those functions is an abstract idea." *In re Killian*, 45 F.4th at 1382 (quoting *Elec. Power Grp.*, 830 F.3d at 1353-54) (internal quotation marks omitted). These software-related claims focus on "a process that qualifies as an 'abstract idea' for which computers are invoked merely as a tool" as opposed to "specific asserted improvements in computer capabilities." *In re Killian*, 45 F.4th at 1382 (citation omitted). The "claims lack sufficient recitation of *how* the purported invention improves the functionality" of any underlying computer. *Hawk Tech. Sys. v. Castle Retail*, 60 F.4th 1349, 1358 (Fed. Cir. 2023) (cleaned up) (citation omitted).

These claims thus fall squarely within the realm of abstract ideas, and

Facebook's articulation of the abstract idea also falls squarely within this Court's precedent. *Electric Power*, for example, found a nearly 400-word claim representative of the claims across three patents, and concluded that the "focus" of the claims was "collecting information, analyzing it, and displaying certain results of the collection and analysis." *Elec. Power Grp.*, 830 F.3d at 1353. Likewise, *Ultramercial* involved a 349-word representative claim found to be directed to an abstract idea of using an advertisement as an exchange or currency. *Ultramercial v. Hulu*, 772 F.3d 709, 712, 715 (Fed. Cir. 2014). *Alice* itself involved a nearly 200-word claim that the Supreme Court held was drawn to the "abstract idea of intermediated settlement." *Alice*, 573 U.S. at 218. *E.g.*, *Smart Sys. Innovations v. Chicago Transit Auth.*, 873 F.3d 1364, 1370 (Fed. Cir. 2017) (223-word claim and 194-word claim patent-ineligible). So too here; when properly considered under this Court's precedent, the asserted claims are directed to the abstract idea of organizing information in a time-ordered manner.

4. Mirror Worlds' Cited Cases Are Distinguishable

Mirror Worlds cites no precedent that supports its position on § 101. (*E.g.*, Yellow Br. 45, 35, 43, 48.) In each of the cases relied upon by Mirror Worlds, the asserted claims were upheld under § 101 because they recited something that is plainly missing from the claims here – a specific improvement in the functionality of the computer itself. As explained in Facebook's Red Brief, *Enfish* is starkly

distinguishable. (Red Br. 65-67 (discussing *Enfish v. Microsoft*, 822 F.3d 1327, 1336-37 (Fed. Cir. 2016).)

Uniloc USA v. LG Electronics USA, 957 F.3d 1303, 1307-08 (Fed. Cir. 2020) is inapposite too, as the claim there, recited "a primary station for use in a communication system 'wherein means are provided for ... adding to each inquiry message prior to transmission an additional data field for polling at least one secondary station.'" The "additional data field enable[d] a primary station to simultaneously send inquiry messages and poll parked secondary stations," thereby eliminating and reducing the delay present in conventional systems with a primary station. *Id*. No such specific "patent-eligible improvement to computer functionality" exists in Mirror Worlds' asserted claims. *Id*. at 1308.

Koninklijke KPN N.V. v. Gemalto M2M GmbH, 942 F.3d 1143, 1150 (Fed. Cir. 2019), does not help Mirror Worlds either. There, the claim "recite[d] a sufficiently specific implementation (*i.e.*, modifying the permutation applied to the original data 'in time') of an existing tool (*i.e.*, check data generating device) that improve[d] the functioning of the overall technological process of detecting systematic errors in data transmissions." *Id*. at 1151. No specific implementation details – let alone *how* to accomplish the abstract idea of organizing information based on time – are recited in Mirror Worlds' claims.

Neither does *Ancora Technologies v. HTC America*, 908 F.3d 1343, 1348-49

(Fed. Cir. 2018), support Mirror Worlds. *Ancora* involved claims where "a structure containing a license record is stored in a particular, modifiable, non-volatile portion of the computer's BIOS, and the structure in that memory location is used for verification by interacting with the distinct computer memory that contains the program to be verified." *Id*. at 1348-49. Due to the "specific and unique characteristics of certain aspects of the BIOS," the claimed addressed a specific "technological problem with computers: vulnerability of license-authorization software to hacking." *Id*. at 1349.

Mentone Solutions v. Digi International Inc., No. 2021-1202, 2021 WL 5291802, at *4 (Fed. Cir. Nov. 15, 2021), is inapposite as well. There, the relevant claim recited "a particular method of breaking the fixed relationship between the timing of a downlink USF and subsequent uplink transmission: the mobile station receives an assignment of two distinct PDCHs, and, if the shifted USF operation is used, it monitors the second PDCH for USFs corresponding to the first and second PDCH and transmits on those PDCHs accordingly." *Id*. at *4. The claim thus provided a specific technical solution to a computer-only problem of extending bandwidth allocation in a network. *Id*. at *5.

This case also bears no comparison to *Aatrix Software v. Green Shades Software*, 882 F.3d 1121, 1127-28 (Fed. Cir. 2018). There, this Court found on a motion to dismiss that the claimed invention plausibly "uses less memory, results in

faster processing speed, and reduces the risk of thrashing which makes the computer process forms more efficiently," and is thus allegedly "directed to an improvement in the computer technology itself." *Id*.

Indeed, Mirror Worlds' cited cases only highlight, by stark contrast, the asserted claims' failure to provide any improvement to the computer itself. *Customedia*, 951 F.3d at 1364. These claims fail *Alice* Step One.

C. The Asserted Claims Recite No Inventive Concept

Mirror Worlds' arguments about Step Two do little more than repeat the same meritless arguments presented at Step One, addressed above. Mirror Worlds fails to identify any transformative inventive concept set forth in the asserted claims. (Red Br. 68-70; Yellow Br. 55-57.) In fact, close scrutiny of Mirror Worlds' argument at Step Two only further demonstrates why the claims are ineligible as a matter of law. All of the features cited by Mirror Worlds merely reflect the abstract idea of organizing information in a time-ordered manner: generating and maintaining time-ordered streams, applying timestamps to all data units, and searching the time-ordered "main" stream/collection to obtain a "sub" stream/collection. (Yellow Br. 55-57; *see also* Appx1921 (file history discussing Outlook's time-ordered lists).) "It has been clear since *Alice* that a claimed invention's use of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention 'significantly more' than that ineligible concept." *BSG Tech*, 899 F.3d at 1290-91.

Mirror Worlds points to its expert's opinions for the allegedly "'revolutionary' use of time-ordered main streams and substreams" (Yellow Br. 55-56), but this allegation is irrelevant because "a claim for a *new* abstract idea is still an abstract idea." *Simio*, 983 F.3d at 1364 (citation omitted). And the use of time-ordered main streams and substreams—sets and subsets of time-ordered information—is nothing significantly more than the use of the abstract idea itself: organizing information in a time-ordered manner. Mirror Worlds does not identify any "additional elements" beyond the abstract idea that "transform the nature of the claim" into something "significantly more" than the abstract idea. *BSG Tech.*, 899 F.3d at 1289-90. Mirror Worlds also concedes that the order of the method steps does not provide any inventive concept. (Yellow Br. 58 ("The inventive aspect of the claims is not the order in which the steps are performed.").) Because the claims as a matter of law recite no inventive concept, they fail at Step Two.

III. CONCLUSION

The Court should reverse the district court's denial of summary judgment of invalidity and hold that the asserted claims are invalid under § 101.

Dated: July 31, 2023

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I hereby certify that on July 31, 2023, I filed or caused to be filed the foregoing with the Clerk of the United States Court of Appeals for the Federal Circuit via the CM/ECF system and served or caused to be served a copy on all counsel of record by the CM/ECF system.

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