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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte VIKAS SRIVASTAVA, PATRICK BARKHORDARIAN, and
MICHELLE YIP CHEN

Appeal 2020-000825
Application 14/214,305
Technology Center 3600

Before JOHN A. JEFFERY, LARRY J. HUME, and JAMES W. DEJMEK,
Administrative Patent Judges.

HUME, *Administrative Patent Judge.*

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision rejecting claims 1–41, which are all rejections pending in the application. We have jurisdiction under 35 U.S.C. § 6(b).

WeAFFIRM.

¹ We use the term “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Integral Development Corp. Appeal Br. 3.

STATEMENT OF THE CASE²

The claims are directed to a method and system for calculating and utilizing realized spread in financial transactions. *See* Spec. (Title). In particular, Appellant’s disclosed embodiments and claimed invention “relate[] generally to realized spread and related analytics to create a flexible, expandable data mining platform covering data sources and trading relationships and, more specifically, to a method and system for calculating and utilizing a realized spread in financial transactions.” Spec. ¶ 3.

Exemplary Claims

Claims 1 and 19, reproduced below, are representative of the subject matter on Appeal (*emphasis* added to contested prior-art limitations):

1. A system for generating and utilizing financial trading metrics, comprising:
 - a data-obtaining module comprising a computer program executing on a processor,
 - the data-obtaining module configured to implement programmatic control to obtain raw financial trade data via at least one of an http listing query directed to a log server and an http request directed to a source, wherein the raw financial trade data includes at least one of a globally unique identifier and a counter-party identifier;*
 - a data-normalizing module, operatively connected to the data-obtaining module and configured to convert the raw financial-trade data into normalized financial-trade data;

² Our decision relies upon Appellant’s Appeal Brief (“Appeal Br.,” filed May 20, 2019); Reply Brief (“Reply Br.,” filed Nov. 12, 2019); Examiner’s Answer (“Ans.,” mailed Sept. 9, 2019); Final Office Action (“Final Act.,” mailed Nov. 16, 2018); and the original Specification (“Spec.,” filed Mar. 14, 2014) (claiming benefit of US 61/801,123, filed Mar. 15, 2013).

a metric-generating module, operatively connected to the data-normalizing module and configured to generate financial-trade metrics based on the normalized financial-trade data; and

an intelligence-generating module, operatively connected to the metric-generating module and configured to communicate the financial-trade metrics to a device associated with a trader.

19. A computer-implemented method for calculating realized spreads in financial transactions, comprising the following steps:

obtaining, via programmatic control of a computer program being executed by one or more processors, one or more data files comprised of raw financial transaction data a via at least one of an http listing query directed to a log server and an http request directed to a source, wherein the raw financial trade data includes at least one of a globally unique identifier and a counter-party identifier;

converting the raw financial data into normalized financial transaction data;

generating one or more financial-trade metrics from the normalized financial data; and

communicating the one or more financial-trade metrics to a device associated with a trader.

REFERENCES

The prior art relied upon by the Examiner as evidence is:

Name	Reference	Date
Fishman et al. (“Fishman”)	US 6,507,818 B1	Jan. 14, 2003
Khalfan et al. (“Khalfan”)	US 2003/0097323 A1	May 22, 2003
Toffey	US 2005/0234807 A1	Oct. 20, 2005
Ogg et al. (“Ogg”)	US 2005/0246263 A1	Nov. 3, 2005
Sattler et al. (“Sattler”)	US 2006/0026137 A1	Feb. 2, 2006
Janian	US 2006/0178981 A1	Aug. 10, 2006
Swearingen et al. (“Swearingen”)	US 2009/0204548 A1	Aug. 13, 2009
Shin et al. (“Shin”)	US 2012/0005069 A1	Jan. 5, 2012
Nyhoff et al. (“Nyhoff”)	US 2013/0024347 A1	Jan. 24, 2013

REJECTIONS

R1. Claims 1-41 stand rejected under 35 U.S.C. § 101 as being directed to a judicial exception (e.g., an abstract idea) without significantly more. Final Act. 2.³

R2. Claims 1, 19, and 38 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Fishman, Nyhoff, and Sattler. Final Act. 5.

R3. Claims 2–5, 7, 20, 21, 23, 25, 39, and 40 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Fishman, Nyhoff, Sattler, and Janian. Final Act. 7.

³ On this record, it appears that claims 6, 10, 12–17, 22, 27, 29–34, and 41 stand rejected only under § 101 Rejection R1, and have no prior-art rejections.

R4. Claims 8 and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Fishman, Nyhoff, Sattler, and Ogg. Final Act. 8.

R5. Claims 9, 11, 26, and 28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Fishman, Nyhoff, Sattler, and Khalfan. *Id.*

R6. Claims 18 and 37 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Fishman, Nyhoff, Sattler, and Swearingen. Final Act. 9.

R7. Claim 35 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Fishman, Nyhoff, Sattler, and Toffey. Final Act. 10.

R8. Claim 36 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Fishman, Nyhoff, Sattler, and Shin. *Id.*

CLAIM GROUPING

Based on Appellant's arguments (Appeal Br. 10–21) and our discretion under 37 C.F.R. § 41.37(c)(1)(iv), we decide the appeal of patent-ineligible subject matter Rejection R1 of claims 1–41 on the basis of representative method claim 19; we decide the appeal of obviousness Rejection R2 of claims 1, 19, and 38 on the basis of representative system claim 1.

Remaining claims 2–5, 7–9, 11, 18, 20, 21, 23–26, 28, 35–37, 39, and 40 in Rejections R3 through R8, not argued separately, stand or fall with the respective independent claim from which they depend.⁴

ISSUES AND ANALYSIS

In reaching this decision, we consider all evidence presented and all arguments actually made by Appellant. To the extent Appellant has not advanced separate, substantive arguments for particular claims, or other issues, such arguments are waived. 37 C.F.R. § 41.37(c)(1)(iv).

We disagree with Appellant’s arguments with respect to claims 1–41 and, unless otherwise noted, we incorporate by reference herein and adopt as our own: (1) the findings and reasons set forth by the Examiner in the action from which this appeal is taken, and (2) the reasons and rebuttals set forth in the Examiner’s Answer in response to Appellant’s arguments. We highlight and address specific findings and arguments regarding claims 1 and 19 for emphasis as follows.

1. § 101 Rejection R1 of Claims 1–41

Issue 1

Appellant argues (Appeal Br. 10–17; Reply Br. 3–10) the Examiner’s rejection of claim 19 under 35 U.S.C. § 101 as being directed to patent-

⁴ “Notwithstanding any other provision of this paragraph, the failure of appellant to separately argue claims which appellant has grouped together shall constitute a waiver of any argument that the Board must consider the patentability of any grouped claim separately.” 37 C.F.R. § 41.37(c)(1)(iv). In addition, when Appellant does not separately argue the patentability of dependent claims, the claims stand or fall with the claims from which they depend. *In re King*, 801 F.2d 1324, 1325 (Fed. Cir. 1986).

ineligible subject matter is in error. These contentions present us with the following issue:

Under the USPTO’s Revised Guidance, informed by our governing case law concerning 35 U.S.C. § 101, is claim 19 patent ineligible under § 101?

Principles of Law

A. 35 U.S.C. § 101

An invention is patent eligible if it is a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101.⁵ However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012) (brackets in original) (citing *Diamond v. Diehr*, 450 U.S. 175, 185 (1981)).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 217–18 (2014) (citing *Mayo*, 566 U.S. at 75–77). In accordance with that framework, we first determine what concept the claim is “directed to.” *See Alice*, 573 U.S. at 219 (“On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement

⁵ This threshold analysis of whether a claim is directed to one of the four statutory categories of invention, *i.e.*, a process, machine, manufacture, or composition of matter, is referred to as “*Step 1*” in the USPTO’s patent-eligibility analysis under § 101. MPEP § 2106.

risk.”); *see also* *Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk . . .”).

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diehr*, 450 U.S. at 191); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

Abstract ideas may include, but are not limited to, fundamental economic practices, methods of organizing human activities, and mathematical formulas or relationships. *Alice*, 573 U.S. at 217–21. Under this guidance, we must therefore ensure at step one that we articulate what the claims are directed to with enough specificity to ensure the step one inquiry is meaningful. *Id.* at 217 (“[W]e tread carefully in construing this exclusionary principle lest it swallow all of patent law.”).

Examples of claims that do not recite mental processes because they cannot be practically performed in the human mind include: (a) a claim to a method for calculating an absolute position of a GPS receiver and an absolute time of reception of satellite signals, where the claimed GPS

receiver calculated pseudoranges that estimated the distance from the GPS receiver to a plurality of satellites, *SiRF Technology, Inc. v. International Trade Commission*, 601 F.3d 1319, 1331–33 (Fed. Cir. 2010); (b) a claim to detecting suspicious activity by using network monitors and analyzing network packets, *SRI International, Inc. v. Cisco Systems, Inc.*, 930 F.3d 1295, 1304 (Fed. Cir. 2019); (c) a claim to a specific data encryption method for computer communication involving a several-step manipulation of data, *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1149 (Fed. Cir. 2016) (distinguishing *TQP Development, LLC v. Intuit Inc.*, 2014 WL 651935 (E.D. Tex. Feb. 19, 2014)) (the specific data encryption method “could not conceivably be performed in the human mind or with pencil and paper”). Whereas a claim limitation to a process that “can be performed in the human mind, or by a human using a pen and paper” qualifies as a mental process, a claim limitation that “could not, as a practical matter, be performed entirely in a human’s mind” (even if aided with pen and paper) would not qualify as a mental process.⁶

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held “[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 187; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). Having

⁶ *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372, 1375-76 (Fed. Cir. 2011) (distinguishing *Research Corp. Techs. v. Microsoft Corp.*, 627 F.3d 859 (Fed. Cir. 2010), and *SiRF Tech., Inc. v. Int’l Trade Comm’n*, 601 F.3d 1319 (Fed. Cir. 2010)).

said that, the Supreme Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Id.* (citation omitted) (citing *Benson* and *Flook*); *see, e.g., id.* at 187 (“It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

If the claim is “directed to” an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where “we must examine the elements of the claim to determine whether it contains an “inventive concept” sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 573 U.S. at 221 (citation omitted). “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (alterations in original) (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

B. USPTO Revised Guidance

The PTO published revised guidance in the Federal Register concerning the application of § 101. *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (hereinafter “Revised Guidance”) (<https://www.govinfo.gov/content/pkg/FR-2019-01-07/pdf/2018-28282.pdf>). All USPTO personnel are, as a matter of internal agency management, expected to follow the guidance.” *Id.* at 51; *see also*

October 2019 Update at 1 (*October 2019 Update: Subject Matter Eligibility*)
(hereinafter “October 2019 Update”).

Under the Revised Guidance, we first look to whether the claim recites:

(1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes);⁷ and

(2) additional elements that integrate the judicial exception into a practical application (*see* Manual for Patent Examining Procedure (“MPEP”) §§ 2106.05(a)–(c), (e)–(h)).⁸

See Revised Guidance 52–53.

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim:

(3) adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or

(4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.⁹

See Revised Guidance 56.

⁷ Referred to as “*Revised Step 2A, Prong 1*” in the Revised Guidance (hereinafter “*Step 2A(i)*”).

⁸ Referred to as “*Revised Step 2A, Prong 2*” in the Revised Guidance (hereinafter “*Step 2A(ii)*”).

⁹ Items (3) and (4) continue to be collectively referred to as “*Step 2B*” of the Supreme Court’s two-step framework, described in *Mayo* and *Alice*.

Step 2A(i) – Abstract Idea

Informed by our judicial precedent, the Revised Guidance extracts and synthesizes key concepts identified by the courts as abstract ideas to explain that the abstract idea exception includes the following groupings of subject matter, when recited as such in a claim limitation:

(a) Mathematical concepts—mathematical relationships, mathematical formulas or equations, mathematical calculations;

(b) Certain methods of organizing human activity — fundamental economic principles or practices (including hedging, insurance, mitigating risk); commercial or legal interactions (including agreements in the form of contracts; legal obligations; advertising, marketing or sales activities or behaviors; business relations); managing personal behavior or relationships or interactions between people (including social activities, teaching, and following rules or instructions); and

(c) Mental processes—concepts performed in the human mind (including an observation, evaluation, judgment, opinion).

Revised Guidance 52 (footnotes omitted).

Under the Revised Guidance, if the claim does not recite a judicial exception (a law of nature, natural phenomenon, or subject matter within the enumerated groupings of abstract ideas above), then the claim is patent-eligible at *Step 2A(i)*. This determination concludes the eligibility analysis, except in situations identified in the Revised Guidance.¹⁰

¹⁰ In the rare circumstance in which an examiner believes a claim limitation that does not fall within the enumerated groupings of abstract ideas should nonetheless be treated as reciting an abstract idea, the procedure described in of the Guidance for analyzing the claim should be followed. *See* Revised Guidance, Section III.C.

However, if the claim recites a judicial exception (i.e., an abstract idea enumerated above, a law of nature, or a natural phenomenon), the claim requires further analysis for a practical application of the judicial exception in *Step 2A(ii)*.

Step 2A(ii) – Practical Application

If a claim recites a judicial exception in *Step 2A(i)*, we determine whether the recited judicial exception is integrated into a practical application of that exception in *Step 2A(ii)* by: (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception(s); and (b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application.

The seven identified “practical application” sections of the MPEP,¹¹ cited in the Revised Guidance under *Step 2A(ii)*, are:

- (1) MPEP § 2106.05(a) Improvements to the Functioning of a Computer or To Any Other Technology or Technical Field
- (2) MPEP § 2106.05(b) Particular Machine
- (3) MPEP § 2106.05(c) Particular Transformation
- (4) MPEP § 2106.05(e) Other Meaningful Limitations
- (5) MPEP § 2106.05(f) Mere Instructions To Apply An Exception

¹¹ See MPEP §§ 2106.05(a)–(c), (e)–(h). Citations to the MPEP herein refer to revision [R-08.2017]. Sections 2106.05(a), (b), (c), and (e) are indicative of integration into a practical application, while §§ 2106.05(f), (g), and (h) relate to limitations that are not indicative of integration into a practical application.

- (6) MPEP § 2106.05(g) Insignificant Extra-Solution Activity
- (7) MPEP § 2106.05(h) Field of Use and Technological Environment

See Revised Guidance 55.

If the recited judicial exception is integrated into a practical application as determined under one or more of the MPEP sections cited above, then the claim is not directed to the judicial exception, and the patent-eligibility inquiry ends. See Revised Guidance 54. If not, then analysis proceeds to *Step 2B*.

Step 2B – “Inventive Concept” or “Significantly More”

Under our reviewing courts’ precedent, it is possible that a claim that does not “integrate” a recited judicial exception under *Step 2A(ii)* is nonetheless patent eligible. For example, the claim may recite additional elements that render the claim patent eligible even though one or more claim elements may recite a judicial exception.¹² The Federal Circuit has held claims eligible at the second step of the *Alice/Mayo* test (USPTO *Step 2B*) because the additional elements recited in the claims provided “significantly more” than the recited judicial exception (e.g., because the additional elements were unconventional in combination).¹³ Therefore, if a claim has been determined to be directed to a judicial exception under *Revised Step 2A*, we must also evaluate the additional elements individually and in

¹² See, e.g., *Diehr*, 450 U.S. at 187.

¹³ See, e.g., *Amdocs, Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1300, 1304 (Fed. Cir. 2016); *BASCOM Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349–52 (Fed. Cir. 2016); *DDR Holdings v. Hotels.com, L.P.*, 773 F.3d 1245, 1257–59 (Fed. Cir. 2014).

combination under *Step 2B* to determine whether they provide an inventive concept (i.e., whether the additional elements amount to significantly more than the exception itself).¹⁴

Under the Revised Guidance, we must consider in *Step 2B* whether an additional element or combination of elements: (1) “Adds a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field, which is indicative that an inventive concept may be present;” or (2) “simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception, which is indicative that an inventive concept may not be present.” *See* Revised Guidance, Section III.B.¹⁵

¹⁴ The patent eligibility inquiry may contain underlying issues of fact. *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1325 (Fed. Cir. 2016). In particular, “[t]he question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact.” *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018).

¹⁵ In accordance with existing *Step 2B* guidance, an Examiner’s finding that an additional element (or combination of elements) is well understood, routine, conventional activity must be supported with at least one of the four specific types of evidence required by the USPTO *Berkheimer* Memorandum, as shown above. For more information concerning evaluation of well-understood, routine, conventional activity, *see* MPEP § 2106.05(d), as modified by the USPTO *Berkheimer* Memorandum (USPTO Commissioner for Patents Memorandum dated Apr. 19, 2018, “Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP, Inc.*)” (hereinafter “*Berkheimer Memo*”).

In the *Step 2B* analysis, an additional element (or combination of elements) is not well-understood, routine, or conventional unless the examiner finds an evidentiary basis, and expressly supports a rejection in writing with, one or more of the following:

1. A citation to an express statement in the specification or to a statement made by an applicant during prosecution that demonstrates the well-understood, routine, conventional nature of the additional element(s). . . .
2. A citation to one or more of the court decisions discussed in MPEP § 2106.05(d)(II) as noting the well-understood, routine, conventional nature of the additional element(s).
3. A citation to a publication that demonstrates the well-understood, routine, conventional nature of the additional element(s). . . .
4. A statement that the examiner is taking official notice of the well-understood, routine, conventional nature of the additional element(s). . . .

See Berkheimer Memo 3–4.

If the Examiner or the Board determines under *Step 2B* that the element (or combination of elements) amounts to significantly more than the exception itself, the claim is eligible, thereby concluding the eligibility analysis.

However, if a determination is made that the element and combination of elements do not amount to significantly more than the exception itself, the claim is ineligible under *Step 2B*, and the claim should be rejected for lack of subject matter eligibility.

Analysis

Step 1 – Statutory Category

Claim 19, as a method (process) claim, recites one of the enumerated categories of eligible subject matter in 35 U.S.C. § 101. Therefore, the issue before us is whether it is directed to a judicial exception without significantly more.

Step 2A(i): Does the Claim Recite a Judicial Exception?

The Examiner determined that the claims are directed to “a fundamental economic practice;” in the form of “determining ‘spreads’ (as used in the instant application) in trading, and generating and utilizing financial trading metrics based thereupon (e.g., effective spread, realized spread, etc.), so as to optimize trades, profit, etc.” Ans. 4.

We conclude claim 19 does not recite the judicial exceptions of either natural phenomena or laws of nature. We evaluate, *de novo*, whether claim 1 recites an abstract idea based upon the Revised Guidance.

First, we look to the Specification to provide context as to what the claimed invention is directed to. In this case, the Specification discloses that the invention “relates generally to realized spread and related analytics to create a flexible, expandable data mining platform covering data sources and trading relationships and, more specifically, to a method and system for calculating and utilizing a realized spread in financial transactions.” Spec. ¶ 3.

Appellant’s Abstract describes the invention as:

A system for generating and utilizing financial trading metrics, comprising: (i) a data-obtaining module configured to

obtain raw financial trade data; (ii) a data-normalizing module, operatively connected to the data-obtaining module and configured to convert raw financial-trade data into normalized financial-trade data; and (iii) a metric-generating module, operatively connected to the data-normalizing module and configured to generate financial-trade metrics based on the normalized financial-trade data.

Spec. 39 (Abstract).

With respect to this phase of the analysis, Appellant makes several similar arguments, relying upon the holdings in *Finjan*, *McRO*, *Visual Memory*, *DDR Holdings*, and *Trading Technologies* to allegedly demonstrate non-abstractness of the claims, as discussed below.

Finjan

Appellant argues, “[f]irst, in compliance with *Finjan* . . . the present claims recite specific limitations that effect a useful result or technological improvement. In particular, the claims recite specific limitations that effect the useful result or technological improvement of providing a more effective way of generating real-time financial trading metrics for use in electronic trading platforms.” Appeal Br. 12.

We are not persuaded by Appellant’s comparison (*id.*) of the claims to the claims in *Finjan, Inc. v. Blue Coat Sys., Inc.*, 879 F.3d 1299, 1303 (Fed. Cir. 2018). In *Finjan*, the court found that claims directed to a behavior-based virus scan constituted an improvement in computer functionality over the “traditional, ‘code-matching’ virus scans.” *Id.* at 1304. The court determined that the claimed method employs a new kind of file, allows access to be tailored for different users, and allows the system to accumulate and use newly available, behavior-based information about potential threats. *Id.* at 1305. The court ultimately held that the claims are “directed to a non-

abstract improvement in computer functionality, rather than the abstract idea of computer security,” and “recite specific steps—generating a security profile that identifies suspicious code and linking it to a downloadable—that accomplish the desired result.” *Id.*

Unlike the claims of *Finjan*, claim 19 fails to employ, either explicitly or by analogy, a newly generated file containing security profile in a downloadable, and does not use a new file to enable a computer security system to improve on or add a computer functionality by reciting specific steps accomplishing the desired security results. Thus, we are not persuaded that either of Appellant’s claims 1 or 19 is sufficiently analogous to the claims in *Finjan*.

McRO

In *McRO*, the claims were not held to be abstract because they recited a “specific . . . improvement in computer animation” using “unconventional rules that relate[d] sub-sequences of phonemes, timings, and morph weight sets.” *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1302–03, 1307–08, 1314–15 (Fed. Cir. 2016). In *McRO*, “the incorporation of the claimed rules, not the use of the computer,” improved an existing technological process. *Id.* at 1314.

In the Appeal Brief, Appellant argues, similar to arguments presented with respect to *Finjan* (Appeal Br. 12), the “claims recite specific limitations that effect a useful result or technological improvement,” and thus are sufficiently similar to those held patent eligible in *McRO*. *See also* Reply Br. 5 (citing *McRO*, 837 F.3d at 1344); *see SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1167 (Fed. Cir. 2018) (distinguishing *McRO*):

The claims in *McRO* were directed to the creation of something physical—namely, the display of “lip synchronization and facial expressions” of animated characters on screens for viewing by human eyes. *Id.* at 1313. *The claimed improvement was to how the physical display operated (to produce better quality images)*, unlike (what is present here) a claimed improvement in a mathematical technique with no improved display mechanism. The claims in *McRO* thus were not abstract in the sense that is dispositive here. And those claims also avoided being “abstract” in another sense reflected repeatedly in our cases (based on a contrast not with “physical” but with “concrete”): they had the specificity required to transform a claim from one claiming only a result to one claiming a way of achieving it.

SAP, 898 F.3d at 1167 (emphasis added).

Appellant does not, however, identify how claim 19 improves an existing *technological* process. *See Alice*, 573 U.S. at 223 (explaining that “the claims in *Diehr* were patent eligible because they improved an existing technological process”). Rather, claim 19 concerns a business problem, i.e., a “computer-implemented method for calculating realized spreads in financial transactions.” Appeal Br. 23. In addition, Appellant does not direct us to any evidence that the claimed “obtaining,” “converting,” “generating,” and “communicating” steps correspond to unconventional rules in a manner similar to *McRO*.

Visual Memory

Appellant generally argues “in compliance with Visual Memory, the claimed approach is directed towards a technological improvement.” Appeal Br. 13 (citing *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253 (Fed. Cir. 2017)). “In particular, the claimed approach enables financial

trading metrics to be generated more effectively for use in real-time electronic trading platforms.” *Id.*

In *Visual Memory*, the Federal Circuit held the claims were “directed to an improved computer memory system, not to the abstract idea of categorical data storage. Claim 1 requires a memory system ‘having one or more programmable operational characteristics, said characteristics being defined through configuration by said computer based on the type of said processor,’ and ‘determin[ing] a type of data stored by said cache.’” *Visual Memory*, 867 F.3d at 1259.

The ‘740 patent’s teachings obviate the need to design a separate memory system for each type of processor, which proved to be costly and inefficient, and, at the same time, avoid the performance problems of prior art memory systems. . . . [and] in addition to enabling interoperability with multiple different processors, the ‘740 patent specification explains that the selective definition of the functions of the cache memory based on processor type results in a memory system that can outperform a prior art memory system that is armed with “a cache many times larger than the cumulative size of the subject caches.”

Id. (citations omitted).

On this record, we see insufficient analogy of Appellant’s claims, directed to systems and method for calculating realized spreads in financial transactions, to those found patent eligible in *Visual Memory*, i.e., an improved computer memory system.

DDR Holdings

Appellant’s reliance on *DDR* (Appeal Br. 13–14; Reply Br. 7) is misplaced as the recited claims do not improve the computer. In *DDR*, the claims at issue involved, *inter alia*, “web pages displays [with] at least one

active link associated with a commerce object associated with a buying opportunity of a selected one of a plurality of merchants” (claim 1 of US 7,818,399). The Federal Circuit found the claims in *DDR* to be patent-eligible under step one of the *Alice* test because “the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.” *DDR Holdings v. Hotels.com*, 773 F.3d 1245, 1257 (Fed. Cir. 2014). Specifically, the Federal Circuit found the claims addressed the “challenge of retaining control over the attention of the customer in the context of the Internet.” *Id.* at 1258. We find the rejected claims in this Appeal are quite dissimilar to *DDR*’s web page with an active link, and the Specification does not support the view that the computer related claim elements are unconventional. *See* Fig. 1; Spec. ¶ 57 (“Processor and storage arrangements of the types illustrated in FIG. 1 are well known to those having ordinary skill in the art.”).

Trading Technologies

Appellant further argues, similar to the *non-precedential* holding in *Trading Technologies International, Inc. v. CQG, INC.*, 675 F.App’x 1001 (Fed. Cir. 2017), “the pending claims are directed towards electronic trading systems that generate and utilize financial trading metrics via programmatic control. The claimed invention obtains raw financial transaction data, under the programmatic control of a computer program, via at least one of an http listing query directed to a log server and an http request directed to a source.” Reply Br. 8; *see also* Appeal Br. 14.

In *Trading Technologies*, the Federal Circuit agreed with the court below that “rather than reciting ‘a mathematical algorithm,’ ‘a fundamental economic or longstanding commercial practice,’ or ‘a challenge in business,’

the challenged patents ‘solve problems of prior graphical user interface devices . . . in the context of computerized trading[] relating to speed, accuracy and usability.’” *Trading Techs.*, 675 F. App’x at 1004. Further, the Federal Circuit agreed that the patents at issue “are directed to improvements in existing graphical user interface devices that have no ‘pre-electronic trading analog,’ and recite more than ‘setting, displaying, and selecting’ data or information that is visible on the [graphical user interface] device.” *Id.* (citations omitted).

On this record, we see no analogous improvement by the claims on Appeal that utilize financial trading metrics via programmatic control, to graphical user interfaces or improvements in computerized trading relating to speed, accuracy, or usability as in *Trading Technologies*.

Method Claim 19 Analysis

In TABLE I below, we identify in *italics* the specific claim limitations in method claim 19 that we conclude recite an abstract idea. We additionally identify in **bold** the additional (non-abstract) claim limitations that are generic computer components and techniques, and underline limitations representing extra- or post-solution activity:

TABLE I

Independent Claim 19	Revised Guidance
A computer-implemented method for calculating realized spreads in financial transactions, comprising the following steps:	A process (method) is a statutory subject matter class. <i>See</i> 35 U.S.C. § 101. <i>See</i> 35 U.S.C. § 101 (“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

Independent Claim 19	Revised Guidance
	conditions and requirements of this title.”).
<p>[L1a] <u>obtaining . . . one or more data files comprised of raw financial transaction data []</u></p> <p>[L1b] [wherein said obtaining is] via programmatic control of a computer program being executed by one or more processors,</p>	<p>“[O]btaining . . . one or more data files” represents data gathering which is merely insignificant extra-solution activity that does not add significantly more to the abstract idea to render the claimed invention patent-eligible. <i>See In re Bilski</i>, 545 F.3d 943, 962 (Fed. Cir. 2008) (<i>en banc</i>), <i>aff’d on other grounds</i>, 561 U.S. 593 (2010) (“[T]he involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity”); <i>see also</i> MPEP § 2106.05(g); <i>and see buySAFE, Inc. v. Google, Inc.</i>, 765 F.3d 1350, 1355 (Fed. Cir. 2014) (computer receives and sends information over a network).</p> <p>Programmatic control of a computer program executed by a processor for a specific purpose represents generic computer components and functionality.</p>
<p>[L2] via at least one of an http listing query directed to a log server and an http request directed to a source,</p> <p>wherein the raw financial trade data includes at least one of a globally unique identifier and a counter-party identifier;</p>	<p>An http listing query directed to a log server and an http request directed to a source represents well-understood, routine, and conventional computer techniques.</p>
<p>[L3] <i>converting the raw financial data into normalized financial transaction data;</i></p>	<p>“[c]onverting . . . data” into another form of data is an abstract idea. <i>See Gottschalk v. Benson</i>, 409 U.S. 63,</p>

Independent Claim 19	Revised Guidance
	71–72 (1972) in which the claim converted binary-coded-decimal (BCD) into pure binary form, and simply stated a judicial exception (e.g., law of nature or abstract idea) while effectively adding words that “apply it” in a computer.
[L4] <i>generating one or more financial-trade metrics from the normalized financial data; and</i>	“[G]enerating . . . metrics from . . . data” is an abstract idea, as either an observation, evaluation, judgment, opinion” which could be performed as a mental process, or alternatively as a mathematical calculation. <i>See</i> Revised Guidance 52 and n.12 citing <i>SAP America, Inc. v. InvestPic, LLC</i> , 898 F.3d 1161, 1163 (Fed. Cir. 2018) (holding that claims to a “series of mathematical calculations based on selected information” are directed to abstract ideas).
[L5a] <u>communicating the one or more financial-trade metrics</u> [L5b] to a device associated with a trader.	Transmitting or communicating information, e.g., for display or other presentation to a user, is insignificant extra-solution activity. Revised Guidance 55, n.31; <i>see also</i> MPEP § 2106.05(g). As recited, “a device associated with a trader” is a generic computer component.

Appeal Br. 26 (Claims App.).

Under the broadest reasonable interpretation standard,¹⁶ and aside from any computer-related aspects, we conclude limitations [L1] through [L5] recite steps that would ordinarily occur when calculating realized spreads in financial transactions. *See* Final Act. 2–4; Ans. 3–5. For example, obtaining and converting raw financial data into normalized data (limitations [L1a] and [L3]) are operations that generally occur prior to generating or calculating financial trade metrics representing the financial data. Further, we conclude limitations [L3] (“converting the raw financial data into normalized financial transaction data”), and [L4] (“generating one or more financial-trade metrics from the normalized financial data”) recite abstract ideas, whether initiated person-to-person, on paper, or using a computer.

We determine that claim 19, overall, recites a certain method of organizing human activity in the form of a fundamental economic practice that may also be performed by pen and paper. This type of activity, i.e., calculating realized spreads in financial transactions, as recited in limitations [L1] through [L5] of claim 19, for example, and aside from any computer-related aspects, includes longstanding conduct that existed well before the

¹⁶ During prosecution, claims must be given their broadest reasonable interpretation when reading claim language in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). Under this standard, we interpret claim terms using “the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant’s specification.” *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

advent of computers and the Internet, and could be carried out by a human with pen and paper. *See CyberSource* 654 F.3d at 1375 (“That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in *Gottschalk v. Benson*.”).¹⁷

Thus, under *Step 2A(i)*, we agree with the Examiner that claim 19’s method for calculating realized spreads in financial transactions recites a judicial exception and, under our Revised Guidance, we conclude claim 19 recites a judicial exception of a certain method of organizing human activity, i.e., a fundamental economic practice, and thus is an abstract idea.

Step 2A(ii): Judicial Exception Integrated into a Practical Application?

If the claims recite a judicial exception, as we conclude above, we proceed to the “practical application” *Step 2A(ii)* in which we determine whether the recited judicial exception is integrated into a practical application of that exception by: (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception(s); and

¹⁷ Our reviewing court recognizes that “[a]n abstract idea can generally be described at different levels of abstraction.” *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016). That need not and, in this case does not, “impact the patentability analysis.” *Id.* at 1241. Further, “[t]he Board’s slight revision of its abstract idea analysis does not impact the patentability analysis.” *Id.* Moreover, merely combining several abstract ideas does not render the combination any less abstract. *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017) (“Adding one abstract idea (math) to another abstract idea . . . does not render the claim non-abstract.”); *see also FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093–94 (Fed. Cir. 2016) (determining the pending claims were directed to a combination of abstract ideas).

(b) evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application.

With respect to this step of the analysis, Appellant contends:

The claimed approach is directed towards the practical application of generating *real-time* financial trading metrics for use in electronic trading platforms. More particularly, in the claimed approach, a computing device obtains raw financial transaction data, under the programmatic control of a computer program, via at least one of an http listing query directed to a log server and an http request directed to a source, where the raw financial transaction data includes at least one of a globally unique identifier and a counter-party identifier. The raw financial data is then converted into normalized financial transaction data, and financial-trade metrics are generated based on the normalized financial data. As a result, *raw financial transaction data can be obtained and normalized with decreased delay, enabling metrics to be generated from the transaction data and communicated in real-time* to a computing device coupled to an online trading platform. See Application at ¶¶ [0018], [0061], and [0063]. Because the present claims recite limitations that integrate any purported abstract idea into a practical application, the present claims are not directed towards an abstract idea.

Reply Br. 4 (emphasis added).

We disagree with Appellant's arguments because the purported benefits which Appellant asserts, e.g., "real-time financial trading metrics" and "decreased delay," are not recited in the claims.

As to the specific limitations, we find limitation [L1a] recites insignificant data gathering. See MPEP § 2106.05(g). Data gathering, as performed by the steps or function in Appellant's claims, is a classic example of insignificant extra-solution activity. See, e.g., *In re Bilski*, 545

F.3d 943, 963 (Fed. Cir. 2008) (en banc), *aff'd sub nom, Bilski v. Kappos*, 561 U.S. 593 (2010).

We also find limitation [L5a] (“communicating”) recites insignificant post solution activity. The Supreme Court guides that the “prohibition against patenting abstract ideas ‘cannot be circumvented by’ . . . adding ‘insignificant postsolution activity.’” *Bilski*, 561 U.S. at 610–11 (quoting *Diehr*, 450 U.S. at 191–92).

Further, we determine that limitations [L1b] (“programmable control of a computer program”), [L2] (“http listing query” or “http request”), and [L5b] (“a device associated with a trader”) of claim 19 recite generic computer components, functionality, and techniques. On this record, we are of the view that Appellant’s claims do not operate the recited generic computer components in an unconventional manner to achieve an improvement in computer functionality. *See* MPEP § 2106.05(a).

We find each of the limitations of claim 19 recite either abstract ideas, extra or post-solution activity, or generic computer components and techniques, as identified in *Step 2A(i)*, *supra* and, contrary to Appellant’s allegations, none of the limitations integrate the judicial exception of calculating realized spreads in financial transactions into a practical application as determined under one or more of the MPEP sections cited above. The claim as a whole merely uses instructions to implement the abstract idea on a computer or, alternatively, merely uses a computer as a tool to perform the abstract idea.

Under analogous circumstances, the Federal Circuit has held that “[t]his is a quintessential ‘do it on a computer’ patent: it acknowledges that

[such] data . . . was previously collected, analyzed, manipulated, and displayed manually, and it simply proposes doing so with a computer. We have held such claims are directed to abstract ideas.” *Univ. of Fla. Research Found., Inc. v. Gen. Elec. Co.*, 916 F.3d 1363, 1367 (Fed. Cir. 2019); *see also Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1351 (Fed. Cir. 2016) (“Though lengthy and numerous, the claims do not go beyond requiring the collection, analysis, and display of available information in a particular field, stating those functions in general terms, without limiting them to technical means for performing the functions that are arguably an advance over conventional computer and network technology.”).

Therefore, we conclude the claim as a whole merely uses instructions to implement the abstract idea on a computer or, alternatively, merely uses a computer as a tool to perform the abstract idea. Thus, on this record, Appellant has not shown an improvement or practical application under the guidance of MPEP section 2106.05(a) (“Improvements to the Functioning of a Computer or to Any Other Technology or Technical Field”) or section 2106.05(e) (“Other Meaningful Limitations”). Nor does Appellant advance any arguments in the Brief(s) that are directed to the *Bilski* machine-or-transformation test, which would only be applicable to the method (process) claims on appeal. *See* MPEP §§ 2106.05(b) (Particular Machine) and 2106.05(c) (Particular Transformation).

Therefore, we conclude the abstract idea is not integrated into a practical application, and thus the claim is directed to the judicial exception.

Step 2B – “Inventive Concept” or “Significantly More”

If the claims are directed to a judicial exception, and not integrated into a practical application, as we conclude above, we proceed to the “inventive concept” step. For *Step 2B* we must “look with more specificity at what the claim elements add, in order to determine ‘whether they identify an “inventive concept” in the application of the ineligible subject matter’ to which the claim is directed.” *Affinity Labs*, 838 F.3d at 1258.

In applying step two of the *Alice* analysis, our reviewing court guides we must “determine whether the claims do significantly more than simply describe [the] abstract method” and thus transform the abstract idea into patentable subject matter. *Ulramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014). We look to see whether there are any “additional features” in the claims that constitute an “inventive concept,” thereby rendering the claims eligible for patenting even if they are directed to an abstract idea. *Alice*, 573 U.S. at 221. Those “additional features” must be more than “well-understood, routine, conventional activity.” *Mayo*, 566 U.S. at 79.

Limitations referenced in *Alice* that are not enough to qualify as “significantly more” when recited in a claim with an abstract idea include, as non-limiting or non-exclusive examples: adding the words “apply it” (or an equivalent) with an abstract idea¹⁸; mere instructions to implement an abstract idea on a computer¹⁹; or requiring no more than a generic computer

¹⁸ *Alice*, 573 U.S. at 221–23.

¹⁹ *Alice*, 573 U.S. at 222–23, e.g., simply implementing a mathematical principle on a physical machine, namely a computer.

to perform generic computer functions that are well-understood, routine and conventional activities previously known to the industry.²⁰

With respect to this step of the analysis, Appellant argues:

In this regard, the claims recite the limitations of obtaining raw financial transaction data, under the programmatic control of a computer program, via at least one of an http listing query directed to a log server and an http request directed to a source, where the raw financial transaction data includes at least one of a globally unique identifier and a counter-party identifier. As discussed below, these particular limitations are *novel and non-obvious in view of the prior art, indicating that the limitations are unconventional and non-routine*. In addition, these particular limitations are specific to implementing the inventive functionality of the claimed approach and, therefore, cannot be considered conventional or routine.

Reply Br. 9 (emphasis added).

In response, we note the Supreme Court emphasizes, “[t]he ‘novelty’ of any element or steps in a process, or even of the process itself, is of **no relevance** in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.” *Diehr*, 450 U.S. at 188–89 (emphasis added). Our reviewing court further guides that “[e]ligibility and novelty are separate inquiries.” *Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC*, 874 F.3d 1329, 1340 (Fed. Cir. 2017); see also *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1263 (Fed. Cir. 2016) (holding that “[e]ven assuming” that a particular claimed feature was novel does not “avoid the problem of abstractness”).

²⁰ *Alice*, 573 U.S. at 225 (explaining using a computer to obtain data, adjust account balances, and issue automated instructions involves computer functions that are well-understood, routine, conventional activities).

The patent eligibility inquiry may contain underlying issues of fact. *Mortg. Grader*, 811 F.3d at 1325. In particular, “[t]he question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact.” *Berkheimer*, 881 F.3d at 1368.

In satisfying the evidentiary requirement under *Berkheimer*, the Examiner cites various sources as evidence to confirm the well-understood, routine, and conventional nature of the recited computing devices and techniques.

The claim limitations, considered individually and as a whole, fail to offer significantly more than the abstract idea itself. It is noted that the invention recites several “modules” in the body of the claim; however, the specification makes clear that the modules may be both software and hardware, and may be distributed among one or plural computing devices. . . . As such, the extraneous limitations are directed towards generic computing technology and methods for obtaining data, the particular data/metric being manipulated, and specific operational steps to normalize the data. Each of these computing steps/statistical tools are well-known, routine and conventional methodologies. Taking Official Notice, see also, MPEP 2106.05. As such, they fail to offer significantly more. Ans. 4–5 (citing Spec. ¶ 60); *see also* Appeal Br. 3–4.

In support of the taking of Official Notice with respect to the recitation of “programmable control of a computer program being executed by one or more processors,” in method claim 19, the Examiner additionally cites to <https://arachnoid.com/cpp/tutorial/index.html>, “Programming/C++ tutorial” to support the finding that the recited “programmable control” is well-understood, routine, and conventional computer activity. Ans. 5.

We further find Appellant has not properly traversed the Examiner’s taking of Official Notice with respect to the well-understood, routine, and conventional nature of the recited computing steps and tools.

In addition to the Examiner’s evidentiary finding above, and as further evidence of the conventional nature of the recited “one or more processors,” “log servers,” and “a device associated with a trader” in method claim 19, and similarly for system claim 1, we point to Appellant’s Figure 1 and paragraphs 57 through 59 of the Specification. For example, we note “[p]rocessor and storage arrangements of the types illustrated in FIG. 1 are well known to those having ordinary skill in the art.” Spec. ¶ 57.

Thus, because the Specification describes the additional elements in general terms, without describing the particulars, we conclude the claim limitations may be broadly but reasonably construed as reciting conventional computer components and techniques, particularly in light of Appellant’s Specification, as cited and quoted above.²¹

The MPEP, based upon our precedential guidance, provides additional considerations with respect to analysis of the well-understood, routine, and conventional nature of the recited computer-related components.

Another consideration when determining whether a claim recites significantly more than a judicial exception is whether the additional elements amount to more than a recitation of the words “apply it” (or an equivalent) or are more than mere instructions to implement an abstract idea or other exception on

²¹ Claim terms are to be given their broadest reasonable interpretation, as understood by those of ordinary skill in the art and taking into account whatever enlightenment may be had from the Specification. *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

a computer. As explained by the Supreme Court, in order to transform a judicial exception into a patent-eligible application, the additional element or combination of elements must do “more than simply stat[e] the [judicial exception] while adding the words ‘apply it’”. *Alice Corp. v. CLS Bank*, 573 U.S. ___, 134 S. Ct. 2347, 2357, 110 USPQ2d 1976, 1982-83 (2014) (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 72, 101 USPQ2d 1961, 1965). Thus, for example, claims that amount to nothing more than an instruction to apply the abstract idea using a generic computer do not render an abstract idea eligible. *Alice Corp.*, 134 S. Ct. at 2358, 110 USPQ2d at 1983. *See also* 134 S. Ct. at 2389, 110 USPQ2d at 1984 (warning against a § 101 analysis that turns on “the draftsman’s art”)

In *Alice Corp.*, the claim recited the concept of intermediated settlement as performed by a generic computer. The Court found that the recitation of the computer in the claim amounted to mere instructions to apply the abstract idea on a generic computer. 134 S. Ct. at 2359-60, 110 USPQ2d at 1984. The Supreme Court also discussed this concept in an earlier case, *Gottschalk v. Benson*, 409 U.S. 63, 70, 175 USPQ 673, 676 (1972), where the claim recited a process for converting binary-coded decimal (BCD) numerals into pure binary numbers. The Court found that the claimed process had no substantial practical application except in connection with a computer. *Benson*, 409 U.S. at 71-72, 175 USPQ at 676. The claim simply stated a judicial exception (e.g., law of nature or abstract idea) while effectively adding words that “apply it” in a computer. *Id.*

MPEP § 2106.05(f) (“Mere Instructions To Apply An Exception”).

With respect to the *Step 2B* analysis, we conclude, similar to *Alice*, the recitation of a method that includes the generic components and techniques identified in TABLE I above for method claim 19, and similarly for system claim 1 and computer-readable medium claim 38, is simply not enough to transform the patent-ineligible abstract idea of calculating realized spreads in

financial transactions here into a patent-eligible invention under *Step 2B*. See *Alice*, 573 U.S. at 221 (“[C]laims, which merely require generic computer implementation, fail to transform [an] abstract idea into a patent-eligible invention.”).

Thus, after evaluating representative claim 19 under step 2 of the *Alice* analysis, we conclude it lacks an inventive concept that transforms the abstract idea of calculating realized spreads in financial transactions into a patent-eligible application of that abstract idea.

Therefore, in light of the foregoing, we conclude, under the Revised Guidance, that each of Appellant’s claims 1–41, considered as a whole, is directed to a patent-ineligible abstract idea that is not integrated into a practical application and does not include an inventive concept. Accordingly, we sustain the Examiner’s § 101 rejection of independent claim 19, and grouped claims 1–18 and 20–41 which fall therewith. See Claim Grouping, *supra*.

2. § 103(a) Rejection R2 of Claims 1, 19, and 38

Issue 2

Appellant argues (Appeal Br. 18–21; Reply Br.10–15) the Examiner’s rejection of claim 1 under 35 U.S.C. § 103(a) as being obvious over the combination of Fishman, Nyhoff, and Sattler is in error. These contentions present us with the following issue:

Did the Examiner err in finding the cited prior art combination teaches or suggests “[a] system for generating and utilizing financial trading metrics” that includes the limitation of “a data-obtaining module comprising a computer program executing on a processor,” wherein, *inter alia*, “the

data-obtaining module [is] configured to implement programmatic control to obtain raw financial trade data via at least one of an http listing query directed to a log server and an http request directed to a source, where the raw financial trade data includes at least one of a globally unique identifier and a counter-party identifier,” as recited in claim 1?

Analysis

The Examiner relies upon the combination of Fishman, Nyhoff, and Sattler as teaching or suggesting the contested limitations. Final Act. 5–7.

http listing query / http request

Appellant contends “Nyhoff fails to disclose any techniques that include obtaining, via at least one of (i) an http listing query directed to a log server and (ii) an http request directed to a source. . . . In the Final Office Action, the Examiner maps the http request recited in claim 1 to the email communication links that are implemented by the system 600 disclosed in Nyhoff.” Appeal Br. 19 (citing Final Act. 6).

Instead, the above portions of Nyhoff cited by the Examiner — relating to the “parties” and the “email communication links” — refer to two separate and distinct systems disclosed by Nyhoff. Specifically, Nyhoff discloses that information identifying the parties for futures contracts and offsetting contracts is received by the clearinghouse module 142 that is included in the exchange computer system 100. See Nyhoff at Fig. 1 and ¶ [0025]. By contrast, the communication links to various trade data sources, including email communication links to brokers and/or other entities, are implemented by system 600, which is a separate and distinct system from the exchange computer system 100. See id. at Fig. 6 and ¶ [0063]. Notably, Nyhoff fails to disclose that the email communication links associated with the system 600 are implemented, in any manner, by the exchange computer system

100 in order to identify parties to a futures contract or offsetting contract. Further, Nyhoff fails to disclose that the system 600 implements the email communication links to obtain any such information.

Appeal Br. 19.

In response, the Examiner concludes Appellant's argument that Nyhoff is deficient because its teachings occur in two separate embodiments is unpersuasive, citing our reviewing court's guidance that "[c]ombining two embodiments disclosed adjacent to each other in a prior art patent does not require a leap of inventiveness." Ans. 15 (citing *Boston Scientific Scimed, Inc. v. Cordis Corp.*, 554 F.3d 982, 991 (Fed. Cir. 2009)).

The Examiner continues by responding "[t]he prior art references of record continue to teach each and every aspect of the claims. Nyhoff pertains to financial-trades and teaches the limitations of the claim (including email communication servers), wherein the recited terms are afforded their broadest reasonable interpretation. . . . [and] Sattler teaches programmatic control of a computer program being executed by a processor." Ans. 15–16. The Examiner further finds, and we agree, "Nyhoff, teaches receiving financial trade data from other sources via, for example [']email communication links to brokers and/or other entities that perform trading operations' ([0066]), *which teaches obtaining data via http request directed to a source under programmatic control (e.g., internet email program control).*" Ans. 16 (emphasis added).

As a matter of claim construction, we conclude claim 1 does not require obtaining raw financial trade data via **both** "an http listing query directed to a log server" **and** "an http request directed to a source." Instead,

the claim alternatively recites “obtain[ing] raw financial trade data via *at least one of* an http listing query directed to a log server and an http request directed to a source under programmatic control.” Claim 1 (emphasis added). The Examiner responds to this alternative language by citing Nyhoff’s teaching of “email communication links to brokers and/or other entities that perform trading operations” as teaching or suggesting “obtain[ing] data via http request directed to a source under programmatic control.” Ans. 16 (citing Nyhoff ¶ 66).

Paragraph 66 of Nyhoff discloses:

Engine 601 may also have one or more communication links to trade data sources 605. As explained in more detail below, engine 601 may obtain trade data from sources 605 as part of calculating an alternate cash settlement price. Trade data sources 605 may comprise one or more internal or external databases that provide bid and ask prices for commodities overtime periods of interest. Trade data sources 605 could also include email communication links to brokers and/or other entities that perform trading operations.

Nyhoff ¶ 66 (emphasis added).

We note the Specification is silent on an explicit definition of an “http request directed to a source under programmatic control.”²² Under a broad but reasonable interpretation (*see Morris*, 127 F.3d at 1054), we agree with

²² Appellant indicates the contested limitation is “supported by at least paragraphs [0060], [0063], [0064], [0067], and [0074]–[0076] and Figures 2 and 3 of the Application.” Appeal Br. 7 (“Summary of Claimed Subject Matter”). We find paragraph 63, for example, merely provides an exemplary implementation, without specifics, i.e., “[t]he data-obtaining module 202 may also obtain raw financial-trade data 240 from those sources or from another source by executing an http request under programmatic control 264.” Spec. ¶ 63.

the Examiner that Nyhoff’s disclosure in paragraph 66 of communication links to trade sources, including email communications links to brokers or other trading entities, teaches or suggests the disputed limitation. We agree with the Examiner because under a broad but reasonable interpretation, and lacking any contrary interpretation in the Specification, we conclude the recited “http request directed to a source under programmatic control” reads on Nyhoff’s teaching (¶ 66) of “one or more communication links to trade data sources” that can include “email communication links to brokers and/or other entities that perform trading operations.”²³

Globally Unique Identifier

Appellant also contends “Nyhoff fails to disclose any techniques that include obtaining . . . raw financial trade data that includes *at least one of* (i) a globally unique identifier and (ii) a counter-party identifier.” Appeal Br. 19 (citing Final Act. 6) (emphasis added).

Appellant further argues:

Given this [broadest reasonable interpretation] standard, the ordinary and customary meaning of the term “globally unique identifier” is an identifier that is unique at a global level. This definition of the term “globally unique identifier” is consistent with the usage of the term in the present Specification. In particular, the Specification states that individual trade data extracted from individual records of raw financial-trade data includes a Globally Unique Identifier (GUID) for the quote, among other data. See Application at ¶ [0064]. The Specification does not include any language that defines “globally unique identifier” in a manner that is different from the ordinary and customary meaning of the term.

²³ The Examiner cites to Sattler for teaching or suggesting programmatic control of a computer program being executed by a processor. Ans. 16.

Therefore, the ordinary and customary meaning of “globally unique identifier” to those skilled in the art and consistent with the Specification, is an identifier that is unique at a global level.

Reply Br. 14 (emphasis added).

We note, with respect to any “definition” of “Globally Unique Identifier,” paragraph 64 of the Specification singularly discloses, “[t]he individual trade data 244 extracted from the individual records of raw financial-trade data includes, but is not limited to, a Globally Unique Identifier (GUID) for the quote, a Counter-Party Identified (CPID), date of the trade (YMD), time of the trade (HMS), price of the trade, and the size of the trade.” Spec. ¶ 64. We note this is the only use of the phrase “Globally Unique Identifier” or “GUID” in the Specification. We find this sole mention of the phrase in the Specification does not rise to the level of an explicit definition.

We further point out that Appellant only provides attorney argument with no evidence as to how a person with skill in the art would interpret the disputed phrase, or what the “ordinary and customary meaning of the term” is. Mere attorney arguments and conclusory statements that are unsupported by factual evidence are entitled to little probative value. *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997); *see also In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984); and *Ex parte Belinne*, No. 2009-004693, slip op. at 7-8 (BPAI Aug. 10, 2009) (informative), *available at* <https://www.uspto.gov/sites/default/files/ip/boards/bpai/decisions/inform/fd09004693.pdf>. *See In re Lovin*, 652 F.3d 1349, 1357 (Fed. Cir. 2011) (“[W]e hold that the Board reasonably interpreted Rule 41.37 to require more substantive arguments in an appeal brief than a mere recitation of the claim elements and a naked

assertion that the corresponding elements were not found in the prior art.”); *cf. In re Baxter Travenol Labs.*, 952 F.2d 388, 391 (Fed. Cir. 1991) (“It is not the function of this court to examine the claims in greater detail than argued by an appellant, looking for [patentable] distinctions over the prior art.”). Arguments not made are therefore waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Lacking evidence of record to the contrary, we agree with the Examiner’s finding (Ans. 16) that the phrase “globally unique identifier” has not been expressly defined in Appellant’s Specification, and, under a broad but reasonable interpretation, we agree with the Examiner’s finding that “the name of an instrument is construed to be a globally unique identifier, as is often, though not always, the case.” *Id.*²⁴

Based upon the findings above, on this record, we are not persuaded of error in the Examiner’s reliance on the cited prior art combination to teach or suggest the disputed limitations of claim 1, nor do we find error in the Examiner’s resulting legal conclusion of obviousness. Therefore, we sustain the Examiner’s obviousness rejection of independent claim 1, and grouped claims 19 and 38 which fall therewith. *See* Claim Grouping, *supra*.

²⁴ We are not persuaded by Appellant’s somewhat circular argument (Reply Br. 14) that the ordinary and customary meaning of the phrase “globally unique identifier” “is an identifier that is unique at a global level,” nor are we persuaded that this recited phrase does not read on Nyhoff’s disclosure of a name of an instrument. *See* Ans. 16.

3. Rejections R3–R8: Claims 2–5, 7–9, 11, 18, 20, 21, 23–26, 28, 35–37, 39, and 40

In view of the lack of any substantive or separate arguments directed to obviousness Rejections R3 through R8 of claims 2–5, 7–9, 11, 18, 20, 21, 23–26, 28, 35–37, 39, and 40 under § 103(a) (*see* Appeal Br. 21), we sustain the Examiner’s rejection of these claims. Arguments not made are waived.²⁵

REPLY BRIEF

To the extent Appellant *may* advance new arguments in the Reply Brief (Reply Br. 3–16) not in response to a shift in the Examiner’s position in the Answer, arguments raised in a Reply Brief that were not raised in the Appeal Brief or are not responsive to arguments raised in the Examiner’s Answer will not be considered except for good cause (*see* 37 C.F.R. § 41.41(b)(2)), which Appellant has not shown.

CONCLUSIONS

(1) Under our Revised Guidance, governed by relevant case law, claims 1–41 are patent ineligible under 35 U.S.C. § 101, and we sustain the rejection.

(2) The Examiner did not err with respect to obviousness Rejections R2 through R8 of claims 1–5, 7–9, 11, 18–21, 23–26, 28,

²⁵ Appellant merely argues, “Appellant submits that claim 1 and all claims dependent thereon are in condition for allowance. Further, independent claims 19 and 38 recite limitations similar to those discussed above in connection with allowable claim 1. Therefore, claims 19 and 38 and all claims respectively dependent thereon, respectively, are in condition for allowance for at least the reasons set forth herein.” Appeal Br. 21.

and 35–40 under 35 U.S.C. § 103(a) over the cited prior art combinations of record, and we sustain the rejections.

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Basis / References	Affirmed	Reversed
1–41	101	Subject Matter Eligibility	1–41	
1, 19, 38	103(a)	Obviousness Fishman, Nyhoff, Sattler	1, 19, 38	
2–5, 7, 20, 21, 23, 25, 39, 40	103(a)	Obviousness Fishman, Nyhoff, Sattler, Janian	2–5, 7, 20, 21, 23, 25, 39, 40	
8, 24	103(a)	Obviousness Fishman, Nyhoff, Sattler, Ogg	8, 24	
9, 11, 26, 28	103(a)	Obviousness Fishman, Nyhoff, Sattler, Khalfan	9, 11, 26, 28	
18, 37	103(a)	Obviousness Fishman, Nyhoff, Sattler, Swearigen	18, 37	
35	103(a)	Obviousness Fishman, Nyhoff, Sattler, Toffey	35	
36	103(a)	Obviousness Fishman, Nyhoff, Sattler, Shin	36	
Overall Outcome			1–41	

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FINALITY AND RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv). *See* 37 C.F.R. § 41.50(f).

AFFIRMED