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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MATTHEW W. CLAUS,
KEVIN M. FOLEY, and
NIGEL J. RENTON

Appeal 2019-001128
Application 11/495,235
Technology Center 3600

Before HUBERT C. LORIN, BRADLEY B. BAYAT, and
TARA L. HUTCHINGS, *Administrative Patent Judges*.

LORIN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant appeals from the Examiner's Final decision to reject claims 1–37, 39–51, 58–65, and 67–69.¹ We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies BGC Partners, Inc. as the real party in interest. Appeal Br. 3.

CLAIMED SUBJECT MATTER

The claimed subject matter “relates generally to electronic trading and, more specifically, to a system for using trader lists in an electronic trading system to route a trading order with a reserved size.” (Spec. 1:7–9). Claim 1, reproduced below with emphasis added, is illustrative of the claimed subject matter:

1. *A system for managing trading orders, comprising:*
 - at least one memory communicatively coupled to at least one processor, in which the at least one memory stores instructions which, when executed by the at least one processor, direct the at least one processor to:
 - cause a trader list associated in a database with a first trader to be stored, the stored trader list designating one or more other traders;*
 - receive a trading order from the first trader via a computer coupled to the processor over a network, wherein the trading order is for an order quantity of a first trading product;*
 - determine a first portion and a second portion of the order quantity;*
 - execute a process to generate electronic signals to cause to disclose the first portion of the order quantity to a plurality of traders, the plurality of traders comprising at least one trader designated by the stored trader list;*
 - if a configurable condition is satisfied:*
 - execute a process to generate electronic signals to cause to disclose the second portion of the order quantity to one or more traders that are not designated by the stored trader list;*
 - and*
 - execute a process to generate electronic signals to cause to prevent the disclosure of the second portion of the order quantity to the one or more traders designated by the stored trader list, in which the act to prevent the disclosure of the second portion of the order quantity to the one or more designated traders from the trader list comprises a selection of at least one of:*

execute a process to generate electronic signals to cause to delete the trading order from one or more queues associated in a database with the one or more designated traders,

execute a process to generate electronic signals to cause to filter the trading order from one or more data streams associated in a database with the one or more designated traders from the trader list, and

execute a process to generate electronic signals to cause to route the trading order away from the one or more designated traders from the trader list;

receive a specific trading order from a specific trader designated by the stored trader list;

transmit the specific trading order to the first trader;

receive at least two trading orders from a corresponding at least two traders not designated by the stored trader list;

determine that the specific trading order is from a trader on the stored trader list;

determine that the at least two trading orders are from traders not designated by the stored trader list; and

based at least in part on the determination that the specific trading order is from a trader designated by the stored trader list and the determination that the at least two trading orders are from traders not designated by the stored trader list, cause the specific trading order and the at least two trading orders to be displayed to the first trader on a display device, wherein the display on the display device of any orders from a trader designated by the stored trader list, including the display of the specific trading order from the specific trader, is dimmed or highlighted relative to the display on the display device of the at least two trading orders from the at least two traders not designated by the stored trader list;

in which the trader list designating the one or more other traders is stored before the acts of receiving the trading order from the first trader, receiving the specific trading order from the specific trader, and receiving the at least two trading orders from the corresponding at least two traders.

REFERENCES

The Examiner relies upon the following as evidence of unpatentability:

Name	Reference	Date
Keith	US 2001/0042040 A1	Nov. 15, 2001
Lutnick	US 2002/0169703 A1	Nov. 14, 2002

REJECTIONS

Claims 1–37, 39–51, 58–65, and 67–69 are rejected under 35 U.S.C. § 101 as being directed to judicially-excepted subject matter.

Claims 1–37, 39–51, 58–65, and 67–69 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Keith and Lutnick.

OPINION

The rejection of claims 1-37, 39-51, 58-65, and 67-69 under 35 U.S.C. § 101 as being directed to judicially-excepted subject matter.

Representative claim

The Appellant argues these claims as a group. *See* Appeal Br. 10–19 and 26. We select claim 1 as the representative claim for this group, and the remaining claims 2–37, 39–51, 58–65, and 67–69 stand or fall with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Preliminary comment

In the briefs, Appellant refers to prior USPTO guidance. *See* Appeal Br. 10, section entitled “THE INSTANT CLAIMS MEET THE USPTO ELIGIBILITY GUIDELINES,” referring to “guidelines published by the USPTO on May 4, 2016 and November 2, 2016” and Reply Br. 2, referring to “USPTO guidelines (*Berkheimerv. HP, Inc.*) of April 19, 2018”)

Said guidance have been superseded by the *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (hereinafter “2019 Revised 101 Guidance”). 2019 Revised 101 Guidance, 84 Fed. Reg. at 51 (“Eligibility–related guidance issued prior to the Ninth Edition, R–08.2017, of the MPEP (published Jan. 2018) should not be relied upon.”). Accordingly, our analysis will not address the sufficiency of the Examiner’s rejection against the cited prior guidance. Rather, our analysis will comport with the 2019 Revised 101 Guidance.

Introduction

35 U.S.C. § 101 provides that “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor.”

In that regard, claim 1 covers a “machine” and is thus statutory subject matter for which a patent may be obtained.² This is not in dispute.

However, the 35 U.S.C. § 101 provision “contains an important implicit exception: Laws of nature, natural phenomena, and abstract ideas are not patentable.” *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014) (quoting *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013)).

² This corresponds to Step 1 of the 2019 Revised 101 Guidance, which requires determining whether “the claim is to a statutory category.” 2019 Revised 101 Guidance, 84 Fed. Reg. at 53. *See also id.* at 53–54 (“consider[] whether the claimed subject matter falls within the four statutory categories of patentable subject matter identified by 35 U.S.C. 101.”).

In that regard, notwithstanding claim 1 covers statutory subject matter, the Examiner has raised a question of patent eligibility on the ground that claim 1 is directed to an abstract idea.

Alice identifies a two-step framework for determining whether claimed subject matter is directed to an abstract idea. *Alice*, 573 U.S. at 217. *Alice step one — the “directed to” inquiry:*

According to *Alice* step one, “[w]e must first determine whether the claims at issue are *directed to* a patent-ineligible concept.” *Alice*, 573 U.S. at 218 (emphasis added).

The Examiner determined, inter alia, that claim 1 is directed to “using a trader list to route a trading order with a reserve size.” Final Act. 2.

This abstract idea is similar to abstract ideas previously identified by a Court, such as a "fundamental economic practice", which includes concepts relating to the economy and commerce, such as agreements between people in the form of contracts, legal obligations, and business relations.

Id. at 2–3.

Appellant disagrees, arguing, inter alia, that:

the Final Action oversimplifies the claims by looking at them generally and failing to account for the specific requirements recited in the claims. As seen above, the Final Action alleges that the claims are merely directed to a "fundamental economic practice." However, this is an incorrect characterization of the claimed subject matter. The claims are directed to improvements in electronic trading that includes **executing a process to prevent disclosure of order data, delete orders from a queue, filter trading orders and route orders away from traders.** Therefore, the claims recite **specific computer operations** that allow the computer to perform a function that conventional computers cannot perform. The lack of prior art rejections also supports the position that the claims recite **specific computer**

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operations that allow the computer to perform a function that conventional computers cannot perform.

Appeal Br. 12–13. *See also id.* at 17:

That is, the claimed subject matter includes **executing a process to prevent disclosure of order data, delete orders from a queue, filter trading orders and route orders away from traders.** In this manner, the system may help **reduce use of computer resources including processor, memory and network resources such as bandwidth which thereby helps improve overall computer performance.**

Appeal Br. 12 (“the Final Action does not consider the teachings in the specification that the claims amount to an improvement in computer performance.”)

Accordingly, a dispute over whether claim 1 is directed to an abstract idea is present. Specifically, is claim 1 directed to “using a trader list to route a trading order with a reserve size” (Final Act. 2) or “improv[ing] overall computer performance” (Appeal Br. 12)?

*Claim Construction*³

We consider the claim as a whole giving it the broadest reasonable construction as one of ordinary skill in the art would have interpreted it in light of the Specification at the time of filing.^{4,5,6}

Claim 1 describes a “system” comprising a generic “memory communicatively coupled to” a generic processor. According to the claim, the memory stores instructions which, when executed by the processor, directs the processor to perform various steps. In the order as claimed, they are:

- A first “caus[ing]” step;
- A first “receiv[ing]” step;

³ “[T]he important inquiry for a § 101 analysis is to look to the claim.” *Accenture Glob. Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1345 (Fed. Cir. 2013). “In *Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Can.*, 687 F.3d 1266, 1273 (Fed. Cir. 2012), the court observed that ‘claim construction is not an inviolable prerequisite to a validity determination under § 101.’ However, the threshold of § 101 must be crossed; an event often dependent on the scope and meaning of the claims.” *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1347–48 (Fed. Cir. 2015).

⁴ “In determining the eligibility of respondents’ claimed process for patent protection under § 101, their claims must be considered as a whole.” *Diamond v. Diehr*, 450 U.S. 175, 188 (1981).

⁵ “First, it is always important to look at the actual language of the claims. . . . Second, in considering the roles played by individual limitations, it is important to read the claims ‘in light of the specification.’” *Smart Sys. Innovations, LLC v. Chicago Transit Auth.*, 873 F.3d 1364, 1378 (Fed. Cir. 2017) (J. Linn, dissenting in part and concurring in part) (citing *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016)), among others.

⁶ See 2019 Revised 101 Guidance, 84 Fed. Reg. at 52, n.14 (“If a claim, under its broadest reasonable interpretation.”).

- A first “determin[ing]” step;
- A first “execut[ing]” step;
- Second and third executing steps, “if a configurable condition is satisfied”;
- A second “receiv[ing]” step;
- A first “transmit[ing]” step;
- A third “receiv[ing]” step;
- A second “determin[ing]” step;
- A third “determin[ing]” step; and,
- A “display[ing]” step.

The “causing” step stores a “trader list associated in a database with a first trader ... designating one or more other traders.”

This trader list is stored prior to performing the three “receiv[ing]” steps; that is “receiv[ing]” (a) a trading order from a first trader “for an order quantity of a first trading product”; (b) a “specific trading order from a specific trader designated by the stored trader list;” and (c) “at least two trading orders from a corresponding at least two traders not designated by the stored trader list.”

For (a), a first portion and a second portion of the order quantity are “determine[d].”

Regarding the first portion of the order quantity, a process is “execute[d]” to “disclose [it] to a plurality of traders, the plurality of traders comprising at least one trader designated by the stored trader list.”

Regarding the second portion of the order quantity, “if a configurable condition is satisfied” two processes are “execute[d]”: (1) “to disclose the

second portion of the order quantity to one or more traders that are not designated by the stored trader list” and (2) “to prevent the disclosure of the second portion of the order quantity to the one or more traders designated by the stored trader list.” The disclosure–prevention “act ... comprises a selection of at least one of”:

execute a process to generate electronic signals to cause to delete the trading order from one or more queues associated in a database with the one or more designated traders,

execute a process to generate electronic signals to cause to filter the trading order from one or more data streams associated in a database with the one or more designated traders from the trader list, and

execute a process to generate electronic signals to cause to route the trading order away from the one or more designated traders from the trader list.

(b) is “transmit[ted]” to the first trader.

(b) and (c) are displayed based on two determinations. The first is a determination that (b) is “from a trader on the stored trader list” and the second determination is that (c) is “from traders not designated by the stored trader list. (The second and third “determin[ing]” steps). Thereupon, (b) and (c) are

displayed to the first trader on a display device, wherein the display on the display device of any orders from a trader designated by the stored trader list, including the display of the specific trading order from the specific trader, is dimmed or highlighted relative to the display on the display device of the at least two trading orders from the at least two traders not designated by the stored trader list.

Claim 1 is reasonably broadly construed as covering a system employing a generic processor to perform a scheme for managing trading

orders depending on whether corresponding traders are or are not designated on a stored trading list. This comports with the Specification.

According to the Specification,

[m]any of [] electronic trading systems [‘facilitating the trading of financial instruments and commodities such as stocks, bonds, currency, futures contracts, oil, and gold’] use a bid/offer process in which bids and offers are submitted to the systems by a passive side and then those bids and offers are hit or lifted (or taken) by an aggressive side. For example, a passive trading counterparty may submit a “bid” to buy a particular trading product. In response to such a bid, an aggressive side counterparty may submit a “hit” in order to indicate a willingness to sell the trading product to the first counterparty at the given price. Alternatively, a passive side counterparty may submit an “offer” to sell the particular trading product at the given price, and then the aggressive side counterparty may submit a “lift” (or “take”) in response to the offer to indicate a willingness to buy the trading product from the passive side counterparty at the given price.

Spec., 2:5–16. According to the Specification, “the disadvantages and problems associated with [these] prior electronic trading systems have been substantially reduced or eliminated.” *Id.* at 3:2–4. One advantage of the claimed system

is that the trading platform uses trader lists that assist traders in managing risks associated with trading. For example, a particular trader may perceive that trades with highly specialized traders are not likely to be profitable. Based on this perception, the particular trader may configure a trader list to designate those highly specialized traders with which the particular trader does not want to trade. When the particular trader submits a trading order and/or an order price feed, the trading platform may transmit the trading order and/or the order price feed to the other traders in the trading system, with the exception of those traders designated by the trader list. Thus, the trading platform may

prevent trades that the particular trader believes would be unprofitable.

Id. at 3:30–4:7. “Another advantage is that, by using trader lists, the trading platform may limit or eliminate small trades that are perceived as nuisances.” *Id.* at 4:8–9.

Given the method as claimed as reasonably broadly construed above and in light of the Specification’s description of the objective of the invention is to use trader lists to, inter alia, “limit or eliminate small trades that are perceived as nuisance,” we reasonably broadly construe claim 1 as being directed to a scheme for managing trading orders depending on whether corresponding traders are or are not designated on a stored trading list.

*The Abstract Idea*⁷

Above, where we reproduce claim 1, we identify in italics the limitations we believe recite an abstract idea.⁸ Based on our claim construction analysis (above), we determine that the identified limitations describe a scheme for managing trading orders depending on whether corresponding traders are or are not designated on a stored trading list. Managing trading orders is a commercial interaction. It falls within the enumerated “[c]ertain methods of organizing human activity” grouping of

⁷ This corresponds to Step 2A of the 2019 Revised 101 Guidance. Step 2A determines “whether a claim is ‘directed to’ a judicial exception,” such as an abstract idea. Step 2A is two prong inquiry.

⁸ This corresponds to Prong One (a) of Step 2A of the 2019 Revised 101 Guidance. “To determine whether a claim recites an abstract idea in Prong One, examiners are now to: (a) Identify the specific limitation(s) in the claim under examination (individually or in combination) that the examiner believes recites an abstract idea.” 84 Fed. Reg. at 54.

abstract ideas set forth in the 2019 Revised 101 Guidance.⁹ 2019 Revised 101 Guidance, 84 Fed. Reg. at 52.

*Technical Improvement*¹⁰ (*Appellant's Argument*)

Our characterization of what the claim is directed to is similar to that of the Examiner's ("using a trader list to route a trading order with a reserve size" (Final Act. 2)). The Examiner's characterization is described at a somewhat higher level of abstraction. Nevertheless, "[a]n abstract idea can

⁹ This corresponds to Prong One ["Evaluate Whether the Claim Recites a Judicial Exception"] (b) of Step 2A of the 2019 Revised 101 Guidance. "To determine whether a claim recites an abstract idea in Prong One, examiners are now to: . . . (b) determine whether the identified limitation(s) falls within the subject matter groupings of abstract ideas enumerated in Section 1 of the [2019 Revised 101 Guidance]." 84 Fed. Reg. at 54. This case implicates subject matter grouping "(b):" "(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)." *Id.* at 52.

¹⁰ This corresponds to Prong Two ["If the Claim Recites a Judicial Exception, Evaluate Whether the Judicial Exception Is Integrated Into a Practical Application"] of Step 2A of the 2019 Revised 101 Guidance. "A claim that integrates a judicial exception into a practical application will apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception." 84 Fed. Reg. at 54. One consideration, implicated here, that is "indicative that an additional element (or combination of elements) may have integrated the exception into a practical application" is if "[a]n additional element reflects an improvement in the functioning of a computer, or an improvement to other technology or technical field." *Id.* at 55.

generally be described at different levels of abstraction.” *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240, 1240–41 (Fed. Cir. 2016) (“The Board’s slight revision of its abstract idea analysis does not impact the patentability analysis.”).

We have reviewed the record and are unpersuaded as to error in our or the Examiner’s characterization of what claim 1 is directed to.

Appellant contends that “the system may help **reduce use of computer resources including processor, memory and network resources such as bandwidth which thereby helps improve overall computer performance.**” Appeal Br. 12. *See also id.* at 14 (“may help **reduce computer workload including computer resources such as memory resources, processor resources, and network resources such as network bandwidth**”), 19 (“**reduces the number of transactions over the network**”), and Reply Br. 4 (may help manage **use of computer resources including processor, memory and network resources such as bandwidth which thereby help improve overall computer performance.**”)

However, we do not find that the claim adequately reflects an improvement in overall computer performance, let alone “**reducing use of computer resources including processor, memory and network resources such as bandwidth.**” Appeal Br. 12.

The system as claimed describes, in very general terms, steps for processing (via "caus[ing]," "receiv[ing]," "determin[ing]," "execut[ing]," "transmit[ting]," and "display[ing]" steps) certain types of information, e.g., a trading list. The system as claimed is not focused on improving technology but on a scheme for managing orders for traders vis-a-vis the trading list. *Cf. Trading Techs. Int’l, Inc. v. IBG LLC*, 921 F.3d 1378, 1384

(Fed. Cir. 2019) (“The claims are focused on providing information to traders in a way that helps them process information more quickly, ’556 patent at 2:26–39, not on improving computers or technology.”).

We have carefully reviewed the claim. Per our previous claim construction analysis, claim 1 is reasonably, broadly construed as covering a scheme for managing trading orders depending on whether corresponding traders are or are not designated on a stored trading list. We see no specific asserted improvement in computer capabilities recited in the claim. Rather than being directed to any specific asserted improvement in computer capabilities, the claim supports the opposite view — that the claimed subject matter is directed to a scheme for managing trading orders depending on whether corresponding traders are or are not designated on a stored trading list employing generic devices. *See Spec., e.g., 6:3–7:9.*

The claim provides no additional structural details that would distinguish any device required to be employed to practice the system as claimed, such as the recited “at least one memory communicatively coupled to at least one processor, in which the at least one memory stores instructions,” “database,” and “a computer coupled to the processor over a network,” from its generic counterparts.¹¹

With respect to the “caus[ing],” “receiv[ing],” “determin[ing],” “execut[ing],” “transmit[ting],” and “display[ing]” steps, the Specification attributes no special meaning to any of these operations, individually or in

¹¹ *Cf. Move, Inc. v. Real Estate Alliance Ltd.*, 721 F. App’x 950, 954 (Fed. Cir. 2018) (non-precedential) (“Claim 1 is aspirational in nature and devoid of any implementation details or technical description that would permit us to conclude that the claim as a whole is directed to something other than the abstract idea identified by the district court.”).

the combination, as claimed. In our view, these are common computer processing functions that one of ordinary skill in the art at the time of the invention would have known generic computers were capable of performing and would have associated with generic computers. *Cf. OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015)

Beyond the abstract idea of offer-based price optimization, the claims merely recite “well-understood, routine conventional activit[ies],” either by requiring conventional computer activities or routine data-gathering steps. *Alice*, [573 U.S. at 225 (quoting *Mayo*, 566 U.S. at 73)] For example, claim 1 recites “sending a first set of electronic messages over a network to devices,” the devices being “programmed to communicate,” storing test results in a “machine-readable medium,” and “using a computerized system . . . to automatically determine” an estimated outcome and setting a price. Just as in *Alice*, “all of these computer functions are ‘well-understood, routine, conventional activit[ies]’ previously known to the industry.” *Alice*, [573 U.S. at 225 (quoting *Mayo*, 566 U.S. at 73)] (alterations in original); *see also buySAFE[, Inc. v. Google, Inc.]*, 765 F.3d [1350,] 1355 [(Fed. Cir. 2014)] (“That a computer receives and sends the information over a network—with no further specification—is not even arguably inventive.”).

We find the Appellant’s remark that the claim presents a technical-improvement solution unpersuasive as to error in the Examiner’s or our characterization of what the claim is directed to because the method as claimed fails to adequately support it. We are unable to point to any claim language suggestive of an improvement in computer performance. Nor can we find any suggestion of the argued over improvements (e.g., reducing use of computer resources including processor, memory and network resources such as bandwidth) in the Specification so as to find that “the specification

as a whole ... makes clear ...the technological benefit.” *Koninklijke KPN N.V. v. Gemalto M2M GmbH*, 942 F.3d 1143, 1152 (Fed. Cir. 2019).

An attorney argument that such an improvement exists is alone insufficient. *See generally In re Glass*, 474 F.2d 1015, 1019 (CCPA 1973); *In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974); *In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984); and, *In re Schulze*, 346 F.2d 600, 602 (CCPA 1965).

Accordingly, within the meaning of the 2019 Revised 101 Guidance, we find there is no integration of the abstract idea into a practical application.

Appellant argues that “the claimed subject matter is directed to improvements in electronic trading,” as a result of the steps set forth in the claim regarding the second portion of the order quantity that includes a disclosure–prevention act. Appeal Br. 16; Reply Br. 2–3. Appellant also argues that

the claimed subject matter includes **executing a process to prevent disclosure of order data, delete orders from a queue, filter trading orders and route orders away from traders.** In this manner, the system may help **reduce use of computer resources including processor, memory and network resources such as bandwidth which thereby helps improve overall computer performance.**

Appeal Br. 17; *see also* Reply Br. 4.

The difficulty with these arguments is that they point to the recited steps (“caus[ing],” “receiv[ing],” “determin[ing],” “execut[ing],” “transmit[ing],” and “display[ing]”) themselves, the very subject matter that we, and the Examiner, have characterized as being an abstract idea. Rather than showing that these steps describe a technical improvement in computer

performance, the Appellant points to result-based functional language that is without any means for achieving any purported technological improvement.

The claimed invention the Appellant points to – that is, “executing a process to prevent disclosure of order data, delete orders from a queue, filter trading orders and route orders away from traders” — is described via a scheme (i.e., the “caus[ing],” “receiv[ing],” “determin[ing],” “execut[ing],” “transmit[ting],” and “display[ing]” steps) for managing trading orders depending on whether corresponding traders are or are not designated on a stored trading list. By so broadly defining the inventive method, that is, by setting out what it is aspiring to accomplish without any means for achieving it, let alone any purported computer resources improvement, the claim is in effect presenting the invention in purely result-based functional language, strengthening our determination under *Alice* step one that the claim is directed to an abstract idea. Cf. *Two-Way Media Ltd. v. Comcast Cable Commc’ns, LLC*, 874 F.3d 1329, 1337 (Fed. Cir. 2017) (“Claim 1 recites a method for routing information using result-based functional language. The claim requires the functional results of ‘converting,’ ‘routing,’ ‘controlling,’ ‘monitoring,’ and ‘accumulating records,’ but does not sufficiently describe how to achieve these results in a non-abstract way.”). See also *Uniloc USA v. LG Elecs. USA*, 957 F.3d 1303, 1308 (Fed. Cir. 2020):

The claims we held ineligible in *Two-Way Media* similarly failed to concretely capture any improvement in computer functionality. In *Two-Way Media*, the claims recited a method of transmitting packets of information over a communications network comprising: converting information into streams of digital packets; routing the streams to users; controlling the routing; and monitoring the reception of packets by the users. 874 F.3d at 1334. Two-Way Media argued that the claims solved data transmission problems, including load management and

bottlenecking, but the claimed method was not directed to those improvements. *Id.* at 1336–37. We therefore held the claims ineligible because they merely recited a series of abstract steps (“converting,” “routing,” “controlling,” “monitoring,” and “accumulating records”) using “result-based functional language” without the means for achieving any purported technological improvement. *Id.* at 1337.

Appellant argues that *Core Wireless* “**uniquely match[es] the facts of the present case.**” Appeal Br. 15. We disagree. *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1359–63 (Fed. Cir. 2018) held patent eligible claims reciting an improved user interface for electronic devices that improved the efficiency of the electronic device, “particularly those with small screens.” *See Customedia Technologies, LLC v. Dish Network Corporation*, 951 F.3d 1359, 1364 (Fed. Cir. 2020). No such technical improvement is shown in the record before us. What the record shows is an improved way to handle trades employing generic devices. But the Federal Circuit has

held that it is not enough, however, to merely improve a fundamental practice or abstract process by invoking a computer merely as a tool. For example, in *Affinity Labs. of Texas, LLC v. DIRECTV, LLC*, we held that claims to a method of providing out-of-region access to regional broadcasts were directed to an abstract idea. 838 F.3d 1253, 1258 (Fed. Cir. 2016). We determined the claims were not a patent-eligible improvement in computer functionality because they simply used cellular telephones “as tools in the aid of a process focused on an abstract idea.” *Id.* at 1262; *see also In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016) (holding ineligible claims reciting concrete physical components merely as “a generic environment in which to carry out the abstract idea of classifying and storing digital images in an organized manner”). Likewise, in *Intellectual Ventures I LLC v. Capital One Bank (USA)*, we held that claims reciting a system for providing web

pages tailored to an individual user were directed to an abstract idea. 792 F.3d 1363, 1369–70 (Fed. Cir. 2015). We held that “claiming the improved speed or efficiency inherent with applying the abstract idea on a computer” was insufficient to render the claims patent eligible as an improvement to computer functionality. *Id.* at 1367, 1370; *see also Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715–16 (Fed. Cir. 2014) (holding that displaying an advertisement in exchange for access to copyrighted material is an abstract idea). And in *SAP Am., Inc. v. InvestPic, LLC*, we held patent ineligible claims directed to “selecting certain information, analyzing it using mathematical techniques, and reporting or displaying the results of the analysis.” 898 F.3d 1161, 1167–68 (Fed. Cir. 2018). We determined the claims were focused not on a physical-realm improvement to computers as tools but rather an improvement in wholly abstract ideas. *Id.* at 1168.

Id. at 951 F.3d 1364–1365.

Appellant also argues that *McRO* is applicable here. Appeal Br. 19. We disagree. No technological improvement has been shown here. *Cf. Smart Systems Innovations, LLC v. Chicago Transit Authority*, 873 F.3d 1364, 1372–73 (Fed. Cir. 2017):

in [*McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016)], we held that a “claimed process us[ing] a combined order of specific rules” improved upon existing technological processes, such that it did not recite an abstract idea. 837 F.3d at 1315–16. Here, the Asserted Claims are not directed to specific rules that improve a technological process. Again, the claims recite the collection of financial data from third parties, the storing of that financial data, linking proffered credit cards to the financial data, and allowing access to a transit system based on the financial data. The claims are not directed to a combined order of specific rules that improve any technological process, but rather invoke computers in the collection and arrangement of data. Claims with such character do not escape the abstract idea exception under *Alice* step one. *See*

[*RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322 (Fed. Cir. 2017)"], 855 F.3d at 1327.

We have considered Appellant’s other arguments challenging the Examiner’s determination under step one of the *Alice* framework and find them unpersuasive. For the foregoing reasons, the record supports the Examiner’s determination that claim 1 is directed to an abstract idea.

*Alice step two — Does the Claim Provide an Inventive Concept?*¹²

Step two is “a search for an ‘inventive concept’—*i.e.*, an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Alice*, 573 U.S. at 217–18 (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 73 (2012)).

In that regard, the Examiner determined, *inter alia*, that

Individually, the claims recite the use of a generic computer performing generic computing tasks, specifically:

“at least one memory communicatively coupled to at least one processor,”

“receiving by a processor a trading order from a first trader via a computer coupled to the processor over a network,”

“A non-transitory computer-readable medium”

“execute a process to generate electronic signals”

Additionally, Applicant's disclosure is clear that the computer embodiment

¹² This corresponds to Step 2B, of the 2019 Revised 101 Guidance, 84 Fed. Reg. at 56 “if a claim has been determined to be directed to a judicial exception under revised Step 2A, examiners should then evaluate the additional elements individually and in 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).”

envisioned is that of a general-purpose, generic computer:

It should be understood that the internal structure of trading platform 18 and the interfaces, processors, and memory devices associated therewith is malleable and can be readily changed, modified, rearranged, or reconfigured to achieve the intended operations of trading platform 18.

As-filed specification (page 12, lines 6-9)

Taken as an ordered combination, the limitations are directed to limitations referenced in *Alice Corp.* that are not enough to qualify as significantly more when recited in a claim with an abstract idea include, as a non-limiting or non-exclusive examples: (i) mere instructions to implement the idea on a computer, and/or (ii) recitation of generic computer structure that serves to perform generic computer functions that are well-understood, routine, and conventional activities previously known to the pertinent industry, such as data entry, collection, display, or reporting.

Final Act. 5–6. We agree.

We addressed the matter of whether the claim presented any purported specific asserted technical improvements in our analysis above under step one of the *Alice* framework. This is consistent with the case law. *See Ancora Techs., Inc. v. HTC Am., Inc.*, 908 F.3d 1343, 1347 (Fed. Cir. 2018) (“We have several times held claims to pass muster under *Alice* step one when sufficiently focused on such improvements.”). Such an argument, as the Appellant has made here, can also challenge a determination under step two of the *Alice* framework. *See buySAFE*, 765 F.3d at 1354–55. “[R]ecent Federal Circuit jurisprudence has indicated that eligible subject matter can often be identified either at the first or the second step of the *Alice/Mayo* [framework].” *See* 2019 Revised 101 Guidance, 84 Fed. Reg. at 53, n.17.

The Appellant argues that

the claimed subject matter includes **executing a process to prevent disclosure of order data, delete orders from a queue, filter trading orders and route orders away from traders.** Appellant respectfully submits that the claimed invention, in one example, recites **an additional element (or combination of elements) that are "not well-understood, routine or conventional,** the system may help **manage use of computer resources including processor, memory and network resources such as bandwidth which thereby help improve overall computer performance.** Therefore, Appellant has shown an example of **"a teaching in the specification about how the claimed invention improves a computer or other technology,"**

Appellant respectfully submits that the claimed features above are **not well-understood, routine or conventional.**

Reply Br. 4.

But this does not explain in what way the claimed system provides a *technical* improvement. The argument relies on the claim's result-based functional language involving the disclosure-preventing act as the basis for contending that the claim provides "features [that] are not well-understood, routine or conventional."

Rather than being based on any technical details, the argument looks to the very scheme for managing trades that we have characterized as being an abstract idea. In effect, the Appellant is arguing that the abstract idea is "not well-understood, routine or conventional." That may be but "[g]roundbreaking, innovative, or even brilliant discovery does not by itself satisfy the § 101 inquiry." *Ass'n for Molecular Pathology*, 569 U.S. at 591. *Cf. Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1315 (Fed. Cir. 2016).

Indeed, "[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.” *Diamond v. Diehr*, 450 U.S. 175, 188–89 (1981) (emphasis added); *see also Mayo*, 132 S. Ct. at 1303–04 (rejecting “the Government’s invitation to substitute §§ 102, 103, and 112 inquiries for the better established inquiry under § 101”). Here, the jury’s general finding that Symantec did not prove by clear and convincing evidence that three particular prior art references do not disclose all the limitations of or render obvious the asserted claims does not resolve the question of whether the claims embody an inventive concept at the second step of *Mayo/Alice*.

The arguably unconventional nature of the abstract idea does not affect the determination that the claim is directed to an abstract idea. The abstract idea itself cannot amount to ““significantly more than a patent upon the [ineligible concept] itself.”” *Alice*, 573 U.S. at 218 (quoting *Mayo*, 566 U.S. at 73), whether or not it is conventional.

We are unpersuaded that claim 1 presents an element or combination of elements indicative of a specific asserted technical improvement, thereby rendering the claimed subject matter sufficient to ensure that the patent in practice amounts to significantly more than a patent upon a scheme for managing trading orders depending on whether corresponding traders are or are not designated on a stored trading list.

We have reviewed the claim in light of the Specification and, as explained above, we find the claimed subject matter insufficiently expresses a technical improvement as a result of performing the functions as broadly as they are recited.

We cited the Specification in our earlier discussion. It is intrinsic evidence that the claimed “at least one memory communicatively coupled to at least one processor, in which the at least one memory stores instructions,”

“database,” and “a computer coupled to the processor over a network” as claimed are conventional. In particular, *see, e.g.*, Spec., 7:5–6 (“general-purpose personal computer (PC)”). In doing so, we have followed “Changes in Examination Procedure Pertaining to Subject Matter Eligibility, Recent Subject Matter Eligibility Decision (*Berkheimer v. HP Inc.* [, 881 F.3d 1360 (Fed. Cir. 2018)],” USPTO Memorandum, Robert W. Bahr, Deputy Commissioner For Patent Examination Policy, April 19, 2018 (the “*Berkheimer* Memo”).

Here, the Specification indisputably shows the recited “at least one memory communicatively coupled to at least one processor, in which the at least one memory stores instructions,” “database,” and “a computer coupled to the processor over a network” individually and in the context of a social network as claimed was conventional at the time of filing. Accordingly, there is sufficient factual support for the well-understood, routine, or conventional nature of the claimed “client device” individually or in the combination as claimed.

No other persuasive arguments having been presented, we conclude that no error has been committed in the determination under *Alice* step two that claim 1 does not include an element or combination of elements circumscribing the patent-ineligible concept it is directed to so as to transform the concept into a patent-eligible application.

We have considered all of the Appellant’s arguments (including those made in the Reply Brief) and find them unpersuasive.

Accordingly, because we are not persuaded as to error in the determinations that representative claim 1, and claims 2–37, 39–51, 58–65, and 67–69 which stand or fall with claim 1, are directed to an abstract idea

and do not present an “inventive concept,” we sustain the Examiner’s conclusion that they are directed to patent-ineligible subject matter for being judicially-expected from 35 U.S.C. § 101. *Cf. LendingTree, LLC v. Zillow, Inc.*, 656 F. App’x 991, 997 (Fed. Cir. 2016) (“We have considered all of LendingTree’s remaining arguments and have found them unpersuasive. Accordingly, because the asserted claims of the patents in suit are directed to an abstract idea and do not present an ‘inventive concept,’ we hold that they are directed to ineligible subject matter under 35 U.S.C. § 101.”); *see, e.g., OIP Techs.*, 788 F.3d at 1364; *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1098 (Fed. Cir. 2016).

The rejection of claims 1–37, 39–51, 58–65, and 67–69 under 35 U.S.C. § 103(a) as being unpatentable over Keith and Lutnick.

All the claims require “determin[ing] a first portion and a second portion of [an] order quantity” (claim 1; similar limitations appear in independent claims 20 and 39).

According to the Examiner, said claim limitation is disclosed in paragraph 223 of Keith. Final Act. 7. We reproduce paragraph 223 of Keith:

[0223] Some conventional trading systems support a so-called reserve book feature. A trader submits an appropriately designated order, and only a predetermined amount of the order is revealed on the public book. For example, a reserve order for 10,000 shares with 1,000 shown would place an order for 9,000 shares on the reserve book, and an order for 1,000 shares on the public book. After the 1,000 shares is executed, the reserve book would shift another 1,000 shares to the public book, and so on until the entire order was executed. These conventional systems use the same methodology for executing all portions of the order. In contrast, system 5 may execute portions of an active order in different ways: the first contra-side portions being obtained from

the book and the second contra-side portions being obtained through the auction form of crowd price improvement.

Claim 1 further requires preventing the “disclosure of the second portion of the order quantity to [] one or more traders designated by [a] stored trader list,” and claims 20 and 39 recite similar language.

According to the Examiner, Keith discloses this in “paragraph 223 in combination with para 225, where those who do not meet the disclosure condition of Keith are on the trader list and thus are not allowed to see the order.” Final Act. 7. According to the Examiner, paragraph 48 discloses the trader list. *Id.* at 6 (“paragraph 48, where an order ELF of Keith is the trading order”).

We reproduce para. 225 of Keith as reproduced at page 22 of Appellant’s Appeal Brief:

An order umpire may support disclosure levels from an order ELF. A first order ELF specifies a disclosure level for each entry in the call list associated with an order it posts at an order umpire. Then, another order ELF inquiring at the order umpire also provides its call list including a disclosure level for the first ELF. **If the call lists intersect and the disclosure levels are compatible, the order umpire notifies the parties of the other party's permitted disclosure.** In one embodiment, the **discretion level is selected from (i) none, (ii) owner, (iii) owner and symbol, (iv) owner, symbol and side, (v) owner, symbol, side and approximate minimum lot size, (vi) owner, symbol, side, minimum lot size and soft price, and (vii) owner, symbol, side, minimum lot size and hard price.** A soft price requires affirmation to execute. A hard price is immediately executable.

We have reviewed said disclosures and find, as Appellant has, that paragraph 223 in combination with paragraph 225 does not show preventing

the “disclosure of the second portion of the order quantity to [] one or more traders designated by [a] stored trader list” (claim 1).

While Keith discloses selecting discretion levels for the disclosure of an entry in a call list associated with a posted order, Keith does not identify a trader receiving a first but not a second *quantity* of an order. We agree with Appellant that “the discretion levels (i)-(vii) described above in [0225] of Keith do not disclose or suggest any level that prescribes disclosing and preventing different quantities of an order.” Appeal Br. 23.

Accordingly, paragraph 225 of Keith does not disclose preventing the “disclosure of the second portion of the order quantity to [] one or more traders designated by [a] stored trader list” (claim 1) as alleged. Given no other evidence that said claim limitation is disclosed or suggested by the cited prior art references, a prima facie case of obviousness has not been made out in the first instance. The rejection of the claims is not sustained.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1-37, 39-51, 58-65, 67-69	101	Eligibility	1-37, 39-51, 58-65, 67-69	
1-37, 39-51, 58-65, 67-69	103(a)	Keith, Lutnick		1-37, 39-51, 58-65, 67-69
Overall Outcome			1-37, 39-51, 58-65, 67-69	

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

AFFIRMED