

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

IBG LLC, INTERACTIVE BROKERS LLC,
TRADESTATION GROUP, INC., and
TRADESTATION SECURITIES, INC.,
Petitioner,

v.

TRADING TECHNOLOGIES INTERNATIONAL, INC.,
Patent Owner.

CBM 2016-00087
Patent 7,412,416 B2

Before SALLY C. MEDLEY, MEREDITH C. PETRAVICK, and
JEREMY M. PLENZLER, *Administrative Patent Judges*.

MEDLEY, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 328(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

IBG LLC, Interactive Brokers LLC, Tradestation Group, Inc., and Tradestation Securities, Inc., (“Petitioner”)¹ filed a Petition requesting a review of claims 1–24 of U.S. Patent No. 7,412,416 B2 (Ex. 1001, “the ’416 patent”) under the transitional program for covered business method patents.² Paper 3 (“Pet.”). Trading Technologies International, Inc. (“Patent Owner”) did not file a Patent Owner Preliminary Response. Upon consideration of the Petition, we instituted a covered business method patent review of claims 1–24 of the ’416 patent (Paper 11 (“Dec.”)).

Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 19 (“PO Resp.”)) and Petitioner filed a Reply (Paper 23 (“Pet. Reply”)). Patent Owner filed a Motion to Exclude (Paper 29 (“PO Mot. to Exclude”)) Exhibits 1015, 1016, 1018, and portions of Exhibit 1060. Petitioner filed an Opposition to the Motion to Exclude (Paper 31 (“Pet. Exclude Opp.”)), and Patent Owner filed a Reply (Paper 33 (“PO Exclude Reply”)). An oral hearing was held on August 10, 2017, and a transcript of the hearing is included in the record (Paper 36 (“Tr.”)).

For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–24 of the ’416 patent are unpatentable.

¹ Petitioner indicates that IBG LLC, Interactive Brokers LLC, TradeStation Group, Inc., TradeStation Securities, Inc., TradeStation Technologies, Inc., and IBFX, Inc. are real parties-in-interest. Pet. 2.

² See § 18(a) of the Leahy-Smith America Invents Act, Pub. L. No. 112-29,

A. Related Matters

The '416 patent is involved in the following lawsuit: *TradeStation Technologies v. Trading Technologies International, Inc.*, No. 0:16-cv-60296 (S.D. Fl.). Pet. 2. In compliance with 37 C.F.R. § 42.302(a), Petitioner certifies, and it is not disputed, that Petitioner has been sued for infringement of the '416 patent. *Id.* at 3–4. On this record, we determine that Petitioner may petition for review of the '416 patent pursuant to 37 C.F.R. § 42.302(a).

B. The '416 Patent

The Specification of the '416 patent describes a graphical user interface (“GUI”) for an electronic trading system that allows a remote trader to view trends for an item, which assists the trader to anticipate demand for an item. Ex. 1001, 1:14–16, 2:8–11. Figure 3A of the '416 patent is reproduced below.

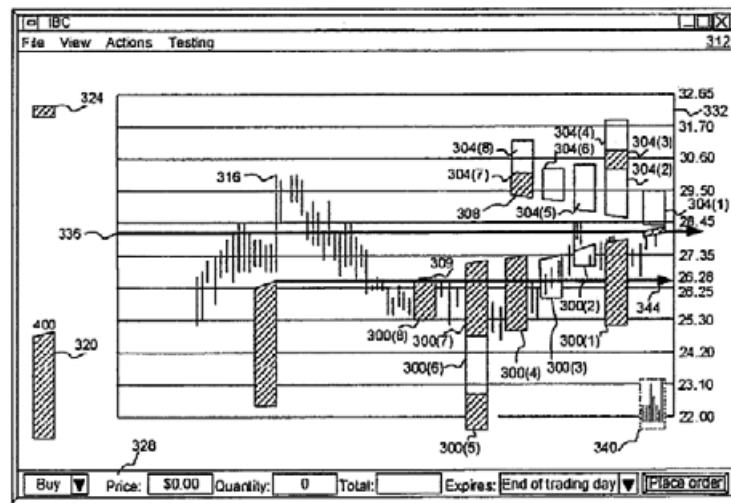


FIG. 3A

Figure 3A depicts a GUI that includes: 1) value axis 332, which indicates the value at which an item is being traded, 2) multiple offer icons 304(1)–304(8), and 3) multiple bid icons 300(1)–300(8). *Id.* at 6:3–10, 6:44–54. The offer icons and the bid icons represent orders in the marketplace. *Id.*

A trader can place an order by dragging-and-dropping an order icon (e.g., bid order icon 320) to a desired location on the chart, triggering a pop-up window (e.g., Fig. 3D) that allows the trader to send the order. *Id.* at 8:28–56, Fig. 3D.

C. Illustrative Claims

Claims 1 and 14 of the '416 patent are the only independent claims and are reproduced below.

1. A method for facilitating trading and displaying information regarding the buying and selling of a good, the method comprising:
 - displaying a chart on a graphical user interface comprising a vertical axis of price values and a horizontal axis of time;
 - displaying indicators representing historical trading data for the good at locations along the vertical axis of price values and the horizontal axis of time;
 - providing a plurality of locations on the graphical user interface to place an order icon with a pointer of a user input device, each location corresponding to a particular price value along the vertical axis of price values;
 - placing an order icon for a particular quantity of the good at a specific location of the plurality of locations along the vertical axis of price values with a pointer of an input

device, wherein the specific location on which the order icon is placed corresponds to a particular price value;

generating an order to buy or sell the particular quantity of the good at the particular price value responsive to placing the order icon at the specific location; and

sending the order to an electronic trading system, wherein the order is for the particular quantity of the good and at the particular price value determined based on the location where the order icon was placed.

14. A computer readable medium, for an electronic exchange in which a good is bought and sold responsive to orders submitted by traders, each order specifying a value and quantity for the order, the computer readable medium containing a program containing instructions to cause a processor to perform the following steps:

displaying a chart on a graphical user interface comprising a vertical axis of price values and a horizontal axis of time;

displaying indicators representing historical trading data for the good at locations along the vertical axis of price values and the horizontal axis of time;

providing a plurality of locations on the graphical user interface to place an order icon with a pointer of a user input device, each location corresponding to a particular price value along the vertical axis of price values;

placing an order icon for a particular quantity of the good at a specific location of the plurality of locations along the vertical axis of price values with a pointer of an input device, wherein the specific location on which the order

icon is placed corresponds to a particular price value;

generating an order to buy or sell the particular quantity of the good at the particular price value responsive to placing the order icon at the specific location; and

sending the order to an electronic trading system, wherein the order is for the particular quantity of the good and at the particular price value determined based on the location where the order icon was placed.

D. Grounds of Unpatentability

We instituted review of claims 1–24 on the following grounds:

References	Basis	Challenged Claims
n/a	§ 101	1–24
n/a	§ 112 ¶ 4	2 and 15

E. Covered Business Method Patent

A covered business method patent is “a patent that claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service, except that the term does not include patents for technological inventions.” Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284, 329 (2011) (“AIA”) § 18(d)(1); *see* 37 C.F.R. § 42.302. To determine whether a patent is for a technological invention, we consider “whether the claimed subject matter as a whole recites a technological feature that is novel and unobvious over the prior art; and solves a technical problem using a technical solution.” 37 C.F.R. § 42.301(b). For purposes of

determining whether a patent is eligible for a covered business method patent review, the focus is on the claims. *Secure Axxess, LLC v. PNC Bank N.A.*, 848 F.3d 1370, 1379 (Fed. Cir. 2017) (“It is the claims, in the traditional patent law sense, properly understood in light of the written description, that identifies a CBM patent.”). One claim directed to a CBM is sufficient to render the patent eligible for CBM patent review. *See id.* at 1381 (“[T]he statutory definition of a CBM patent requires that the patent have a claim that contains, however phrased, a financial activity element.”).

In our Institution Decision, we determined that Petitioner had shown that the ’416 patent is a CBM patent. Dec. 6–9. Patent Owner urges us to reconsider our determination and find that the ’416 patent is not eligible for CBM patent review. *See* PO Resp. 68–76. We are not persuaded to change our original determination.

1. *Method or Corresponding Apparatus for Performing Data Processing or Other Operations Used in the Practice, Administration or Management of a Financial Product or Service*

The statute defines a “covered business method patent” as “[a] patent that claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service.” AIA § 18(d)(1); *see* 37 C.F.R. § 42.301(a). A covered business method patent can be broadly interpreted to encompass patents claiming activities that are financial in nature. Transitional Program for Covered Business Method Patents—Definitions of Covered Business Method Patent and Technological Invention, 77 Fed. Reg. 48734, 48735 (Aug. 14, 2012); *Blue Calypso, LLC v.*

Groupon, Inc., 815 F.3d 1331, 1338–41 (Fed. Cir. 2016) (determining that a patent was a covered business method patent because it claimed activities that are financial in nature); *Unwired Planet, LLC v. Google, Inc.*, 841 F.3d 1376, n.5 (Fed. Cir. 2016) (stating that “we endorsed the ‘financial in nature’ portion of the standard as consistent with the statutory definition of ‘covered business method patent’ in *Blue Calypso*”), *Versata Dev. Grp., Inc. v. SAP America, Inc.*, 793 F.3d 1306, 1324–25 (Fed. Cir. 2015) (“[The statute] on its face covers a wide range of finance-related activities.”).

A patent need have only one claim directed to a covered business method to be eligible for review. 77 Fed. Reg. at 48736 (Response to Comment 8). We take claim 1 as representative.

Petitioner argues that the ’416 patent is a patent that claims a method for performing data processing or other operations used in the practice, administration, or management of a financial product or service. Pet. 4–6. Petitioner argues that claim 1 expressly requires the performance of a financial transaction by its recitation of facilitating trading and displaying information regarding the buying and selling of a good, including the steps of: (1) displaying a chart on a GUI comprising a vertical axis of price values and a horizontal axis of time; (2) displaying indicators representing historical trading data for the good on the chart; (3) providing a plurality of locations on the GUI to place an order icon; (4) placing an order icon for a particular quantity of the good at a specific location along the vertical axis; (5) generating an order to buy or sell the particular quantity of the good; and (6) sending the order to an electronic trading system. *Id.* at 5.

Notwithstanding Patent Owner’s arguments, which we address below, we are persuaded by Petitioner’s showing, and find that the ’416 patent is directed to a method for performing data processing or other operations used in the practice, administration, or management of a financial service. Here, Petitioner asserts, and we agree, that the claim 1 method steps for displaying historical trading data, placing an order icon for a particular quantity of a good at a location along a price axis, and sending an order to an electronic trading system are each financial activities. Pet. 5.

Patent Owner argues that the Petition is silent as to whether the ’416 patent is directed to performing “data processing” or “other operations,” and that Petitioner’s showing focuses solely on whether the ’416 patent is financial in nature. PO Resp. 69–70. We disagree with Patent Owner. Petitioner does address whether the patent is directed to data processing or other operations. *See, e.g.*, Pet. 6 (the ’416 patent claims are directed to a method “*for facilitating trading in an electronic trading system*”) (emphasis added). The definition for a covered business method patent is “a patent that claims a method or corresponding apparatus for performing data processing *or other operations* used in the practice, administration, or management of a financial product or service” 37 C.F.R. § 42.301(a) (emphasis added). Petitioner relies on the “other operations” part of the definition to make its case. This is exemplified, for example, in Petitioner’s showing that the preamble recites a method for facilitating trading and displaying information regarding the buying and selling of a good, which would be “other operations” used in the practice of a financial service (trading on an exchange).

Patent Owner also argues that the '416 claims are not directed to “data processing.” PO Resp. 70–72. As explained immediately above, however, the definition for a covered business method patent is not limited to a patent that claims a method for performing data processing. In any event, we are not persuaded by Patent Owner’s arguments, because such arguments are premised on the assumption that “data processing” should be interpreted according to the definition of “data processing” found in the glossary for class 705 of the United States Patent Classification System, which is a “systematic operation on data in accordance with a set of rules which results in a significant change in data.” *Id.* at 71 (citing Ex. 2121, 4). Patent Owner does not sufficiently explain why this definition is controlling as opposed to the plain meaning of data processing, which includes a computer performing operations on data. *See, e.g.*, Pet. Reply 24–25 (citing Ex. 1066; Ex. 1067).

Claim 1 is directed to, for example, “displaying a chart on a graphical user interface,” which must be done with a computer performing operations on data in order to display the data as a chart on a graphical user interface. The '416 patent discloses processing market information for display on a client terminal. *See e.g.*, Ex. 1001, 5:6–15 (“[C]lient terminals 104 generate icons for bid and offer orders (called bid and offer icons), historical charts and trader icons, and determine the placement of bid and offer icons and trader icons responsive to the information received from the transaction server 200.”) For these reasons, we also determine that the '416 patent claims a method for performing data processing.

In addition, Patent Owner argues that the legislative history of the AIA confirms that the claimed invention is not a covered business method because

“[T]he ’416 patent, which claims the structure, makeup, and functionality of a GUI tool (i.e., not remotely close to a business method) is not that type of patent.” PO Resp. 76–79 (citing Ex. 2126; Ex. 2127).

Although the legislative history includes certain statements that certain novel software tools and graphical user interfaces that are used by the electronic trading industry worker are not the target of § 18 of the AIA (see Ex. 2126, S5428, S5433), the language of the AIA, as passed, does not include an exemption for user interfaces for commodities trading from covered business method patent review. Indeed, “the legislative debate concerning the scope of a CBM review includes statements from more than a single senator. It includes inconsistent views” *Unwired Planet*, 841 F.3d at 1381. For example, in contrast to the statements cited by Patent Owner, the legislative history also indicates that “selling and trading financial instruments and other securities” is intended to be within the scope of covered business method patent review. See Ex. 2126, S5432 (statements of Sen. Schumer); see also *id.* at S5436–37 (statements of Sen. Schumer expressing concern about patents claiming “double click”), Ex. 2127, S1364 (Mar. 8, 2011) (statements of Sen. Schumer explaining that “method or corresponding apparatus” encompasses “graphical user interface claims” and “sets of instructions on storage media claims”). “[T]he legislative history cannot supplant the statutory definition actually adopted. . . . The authoritative statement of the Board’s authority to conduct a CBM review is the text of the statute.” *Unwired Planet*, 841 F.3d at 1381. Each claimed invention has to be evaluated individually to determine if it is eligible for a CBM patent review. A determination of whether a patent is eligible for a

CBM patent review under the statute is made on a case-by-case basis. 37 C.F.R. § 42.301(b).

For the reasons stated above, we are persuaded that the '416 patent “claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service” and meets that requirement of § 18(d)(1) of the AIA.

2. *Exclusion for Technological Inventions*

Even if a patent includes claims that would otherwise be eligible for treatment as a covered business method, review of the patent is precluded if the claims cover only “technological invention[s],” as defined by 37 C.F.R. §42.301(b). The definition of “covered business method patent” in § 18(d)(1) of the AIA does not include patents for “technological inventions.” To determine whether a patent is for a technological invention, we consider the following: “whether the claimed subject matter as a whole [(1)] recites a technological feature that is novel and unobvious over the prior art; and [(2)] solves a technical problem using a technical solution.” 37 C.F.R. § 42.301(b). Both prongs must be satisfied in order for the patent to fall within the exception for a technological invention. *See Versata*, 793 F.3d at 1326–27; *Apple Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016). The following claim drafting techniques, for example, typically do not render a patent a “technological invention”:

- (a) Mere recitation of known technologies, such as computer hardware, communication or computer networks, software, memory, computer-readable storage medium, scanners, display

devices or databases, or specialized machines, such as an ATM or point of sale device.

(b) Reciting the use of known prior art technology to accomplish a process or method, even if that process or method is novel and non-obvious.

(c) Combining prior art structures to achieve the normal, expected, or predictable result of that combination.

Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,763–64 (Aug. 14, 2012). The Federal Circuit has held that a claim does not include a “technological feature” if its “elements are nothing more than general computer system components used to carry out the claimed process.” *Blue Calypso*, 815 F.3d at 1341; *see also Versata*, 793 F.3d at 1327 (“the presence of a general purpose computer to facilitate operations through un inventive steps does not change the fundamental character of an invention”).

Petitioner asserts that the ’416 patent claims fail to recite any technological feature that is novel and unobvious over the prior art, and do not solve a technical problem with a technical solution. Pet. 6–10. In particular, Petitioner contends that independent claims 1 and 14 recite trading software that is implemented using conventional computer hardware, such as personal computers, servers and networks, and do not include a technological feature or implement a technological solution. *Id.* at 7. Petitioner further argues that the ’416 patent itself describes that the computing device used to display the graphical user interface and that performs the claimed method and functions need not be any specific hardware, but can be “personal computers, terminals as part of a network, or any other computing device.” *Id.* at 8

(quoting Ex. 1001, 4:34–36). Petitioner also argues that electronic trading was well known as of the filing date, going back as far as 1971 when NASDAQ set up the first electronic stock exchange. *Id.* at 8 (citing Ex. 1026).

We agree with Petitioner that at least claim 1 is directed to well-understood, routine, and conventional steps of facilitating trading and displaying information regarding the buying and selling of a good to a trader, who uses the information to facilitate trading a commodity. For example, the “BACKGROUND OF THE INVENTION” section of the ’416 patent explains that it was well known for an electronic exchange to record all transactions for a particular item and to replay or post to the individual traders outstanding bids with the highest values and outstanding offers with the lowest value, along with a quantity specified for each order, to facilitate trading a commodity. Ex. 1001, 1:34–41. There is no indication in the ’416 patent that the inventors invented gathering market information, displaying it to a trader, and using the information to facilitate trading a commodity. The use of a computer to perform these functions also was known in the art at the time of the invention (*see, e.g.*, Ex. 1026), and the ’416 patent does not claim any improvement of a computing device.

Petitioner argues that the claimed subject matter does not solve a technical problem using a technical solution, because the problem is a business, financial, or trader problem and the solution is functional, such as rearranging available market data and providing locations to place a trade on a GUI. Pet. 9–10. We agree with Petitioner that the problem noted in the Specification of the ’416 patent is not a technical one. The ’416 patent

Specification highlights the problem and importance of informing a trader of certain stock market events so that the trader may use such information to facilitate trading a commodity. Ex. 1001, 1:27–33, 2:8–11. Informing a trader of certain stock market trends or events is an activity that is financial in nature.

Patent Owner argues that the '416 patent claims a technological GUI tool that improves upon prior GUIs using a particular combination of GUI features and functionality (the particular makeup, structure and features of a GUI tool), and, thus, falls under the technological exception. *Id.* at 72–74. Patent Owner, however, does not tie its arguments to the actual claim language to explain which of the steps of the broad method claim 1, for example, recite an improved technological GUI tool or how the claimed steps solve a technical problem. We do not find that claim 1 solves a technical problem. Rather, claim 1 recites method steps of receiving, displaying, and updating market data, and generating an order to buy or sell a good based on that information.

Patent Owner argues that *Technologies International, Inc. v. CQG, Inc.*, 675 Fed. Appx. 1001 (Fed. Cir. 2017) (“*CQG*”) dictates that the '416 patent claims cover technological inventions (PO Resp. 75–76). *CQG* involved U.S. Patent Nos. 6,772,132 and 6,677,340. The Federal Circuit determined that the claims of those patents are patent eligible under 35 U.S.C. § 101. The claims before us, however, are broader than the claims involved in *CQG*. The Specification of the '416 patent is different from the specification of the patents involved in *CQG*. Thus, comparing the claims of the patents involved in *CQG* is not particularly helpful here. Moreover, the

CQG decision relied upon a feature not required by claim 1 of the '416 patent—a static price axis. Although claim 1 of the '416 patent requires a vertical axis of price and a horizontal axis of time, the claim does not require a static price axis.

For all of the foregoing reasons, the subject matter of the claims is not a “technological invention” under 37 C.F.R. § 42.301(b), and the '416 patent is eligible for a covered business method patent review.

II. ANALYSIS

A. Claim Interpretation

In a covered business method patent review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.300(b). Under the broadest reasonable construction standard, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

For purposes of this decision, we need not interpret any limitations of the claims expressly.

B. The Level of Ordinary Skill in the Art

Notwithstanding the parties' submissions of the level of ordinary skill in the art, we find that the level of ordinary skill in the art is reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978).

C. 35 U.S.C. § 101 Asserted Ground of Unpatentability

Petitioner contends that claims 1–24 of the ’416 patent are not patent eligible under 35 U.S.C. § 101. Pet. 20–41. Patent Owner opposes. PO Resp. 6–68.

Under 35 U.S.C. § 101, we must first identify whether an invention fits within one of the four statutorily provided categories of patent-eligibility: “processes, machines, manufactures, and compositions of matter.” *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 713–14 (Fed. Cir. 2014).

Initially, we note that Petitioner asserts that claims 14–22 are “broad enough to encompass a transitory, propagating signal that is encoded, which is not eligible for patenting.” Pet. at 42 (citing *In re Nuijten*, 500 F.3d 1346, 1357 (Fed. Cir. 2007)). Independent claim 14 recites a “computer readable medium containing a program containing instructions to cause a processor to perform the following steps.” Petitioner contends that the Specification does not define “computer readable medium” or provide examples of a “computer readable medium.” *Id.* at 16. Petitioner further argues that “[u]nder the broadest reasonable interpretation (‘BRI’), the scope of this term is broad enough to encompass a transitory, propagating signal that is encoded” and that the additional language of “containing a program containing instructions to cause a processor to perform the following steps” does not limit the medium to non-transitory media. Pet. 16–17 (citing *In re Nuijten*, 500 F.3d 1346, 1357 (Fed. Cir. 2007)); Pet. Reply 22–23.

In our Institution Decision, we made an initial determination, based on the limited record before us at that time, that the broadest reasonable interpretation of “computer readable medium” in the context of claim 14

“encompasses a transitory, propagating signal that is encoded.” Inst. Dec.

11. Patent Owner argues, among other things, that Petitioner fails to establish that the claims cover signals, because there is nothing in the Specification of the ’416 patent that allows the computer readable medium to be read as being a signal or other transitory medium, and that a person having ordinary skill in the art would have understood that a computer readable medium containing a program would not be a signal or other transitory medium. PO Resp. 66–67 (citing Ex. 2168 ¶ 45; Ex. 2169 ¶ 64). Petitioner responds to Patent Owner’s contentions by asserting that “[t]he Board should follow the precedential decision in *Ex Parte Mewherter* and hold that claims 14–22, which recite a term of art in patent law, encompass transitory signals and are thus non-statutory.” Pet. Reply 22. Petitioner further argues that Patent Owner’s expert, Christopher Thomas, admitted that “computer readable medium” is “a patent term.” *Id.* at 22–23.

Petitioner’s response is unhelpful. For example, in its Reply, Petitioner fails to direct us to evidence to rebut Patent Owner’s contentions regarding how one skilled in the art would have understood the disputed phrase at the time of the invention.

Accordingly, on this record, which is absent any further evidence or meaningful argument from Petitioner, we are not persuaded that at the time of the invention one skilled in the art would have understood “computer readable medium containing a program containing instructions to cause a processor to perform the following steps,” as encompassing transitory, propagating signals.

There is no dispute that the remaining claims fit within one of the four statutorily provided categories of patent-eligibility. Claim 1, for example, is directed to a process.

1. Eligibility

Section 101 of Title 35, United States Code, provides:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The Supreme Court recognizes three exceptions to these statutory classes: laws of nature, natural phenomena, and abstract ideas. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293 (2012). Although an abstract idea by itself is not patentable, a practical application of an abstract idea may be deserving of patent protection. *Alice*, 134 S. Ct. at 2355. We must “consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Id.* (citing *Mayo*, 132 S. Ct. at 1298, 1297). The claim must contain elements or a combination of elements that are “sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [abstract idea] itself.” *Id.* (citing *Mayo*, 132 S. Ct. at 1294).

2. Abstract Idea

Petitioner argues that the claims encompass an abstract idea because they are directed to a fundamental economic practice. Pet. 22–25. In particular, Petitioner argues that the claims’ recitation of displaying a chart

with vertical price axis and a horizontal time axis, displaying indicators representing historical trading data along those axes, placing an order icon at a particular location of a plurality of locations, and generating and sending the order to an electronic trading system, is nothing more than the abstract, fundamental economic practice of graphing (or displaying) trading data to assist a trader to place an order. *Id.* Petitioner further argues that the abstract idea is old, well-known, and prevalent. *Id.* at 23–24 (citing Ex. 1033, 8–15).

Additionally, Petitioner contends that the claims are directed to solving a business problem (anticipating market movement) and can be performed using pen and paper, or using only human mental steps, further indicating that the claims are directed to an abstract concept. *Id.* at 24–27 (citing Ex. 1012 ¶¶ 67–70; Ex. 1001, 1:28–31, 1:53–63; Ex. 1033, 8–15; Ex. 1037, 3).

“The ‘abstract idea’ step of the inquiry calls upon us to look at the ‘focus of the claimed advance over the prior art’ to determine if the claim’s ‘character as a whole’ is directed to excluded subject matter.” *Affinity Labs of Texas v. DirectTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016) (quoting *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016)); *see also Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016). There is no definitive rule to determine what constitutes an “abstract idea.” Rather, the Federal Circuit has explained that “both [it] and the Supreme Court have found it sufficient to compare claims at issue to those claims already found to be directed to an abstract idea in previous cases.” *Enfish*, 822 F.3d at 1334; *see also Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016) (explaining that, in determining whether claims are patent-eligible under § 101, “the decisional

mechanism courts now apply is to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided”).

Claim 1 is similar to independent claim 14 and is representative. Notwithstanding Patent Owner’s arguments, which we address below, we determine that Petitioner has shown³ that claim 1 is directed to the abstract idea of displaying a chart with a vertical price axis and a horizontal time axis, displaying indicators representing historical trading data along those axes, placing an order icon at a particular location of a plurality of locations, and generating and sending the order to an electronic trading system to assist a trader to place an order, which is a fundamental economic practice.

The preamble of claim 1 recites a method for facilitating trading and displaying information regarding the buying and selling of a good. The method steps of claim 1 include displaying a chart on a graphical user interface having a vertical axis of price values and a horizontal axis of time, placing an order icon for a quantity of a good at a location along the vertical axis of price levels, and generating and sending the order to an electronic trading system. We agree with Petitioner that claim 1 encompasses the abstract idea of the fundamental economic practice of graphing (or displaying) trading data to assist a trader to place an order, steps that can be performed using pen and paper, or even in a trader’s mind. Pet. 22–25

³ As explained above, determining whether a claim is directed to an abstract idea calls upon us to look at the focus of the claimed advance over the prior art. In order to do so, we must make findings of fact as to the prior art at the time of the invention. Those facts must be supported by a preponderance of

(citing *CyberSource Corp. v. Retail Decisions*, 654 F.3d 1366, 1372 (Fed. Cir. 2011) (unpatentable mental process performed with aid of pen and paper)); Ex. 1012 ¶¶ 67–70; Ex. 1001, 1:28–31, 1:53–63; Ex. 1033, 8–15; Ex. 1037, 3. We further agree with Petitioner that the ’416 patent claims simply provide a graphical representation on a computer of what traders have done in their minds since trading began. Pet. 26 (citing Ex. 1001, 1:28–31, 1:53–63); *see also* Ex. 1027, 44–46.

When we compare claim 1 at issue to those claims already found to be directed to an abstract idea in previous cases, we are persuaded that claim 1 is more similar to those claims found to encompass an abstract idea than those determined not to encompass an abstract idea. Claim 1 is similar to the claims in *Electric Power*, which did “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.” *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016).

In comparison, claim 1 is unlike the claims at issue in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014) and *Enfish*. In *DDR Holdings*, the court determined that the claims did not embody a fundamental economic principle or a longstanding commercial practice. The claims at issue in *DDR Holdings* were directed to retaining website visitors, which the court determined was a problem “particular to the Internet.” *DDR*

the evidence. 35 U.S.C. § 326(e).

Holdings, 773 F.3d at 1257. The court also determined that the invention was “necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks,” and that the claimed invention did not simply use computers to serve a conventional business purpose. *Id.* In *Enfish*, the claim at issue was directed to a data storage and retrieval system for a computer memory. *Enfish*, 822 F.3d at 1336–37. The court determined that the claims were directed to an improvement in the functioning of a computer and were not simply adding conventional computer components to well-known business practices. *Id.* at 1338. Here, claim 1 is directed to a fundamental economic principle or a longstanding commercial practice and not directed to an improvement in the functioning of the computer.

We have considered all of Patent Owner’s arguments regarding why the claims are not directed to an abstract idea but are not persuaded by such arguments. *See, e.g.*, PO Resp. 12–39. Patent Owner argues that the claims “set forth a GUI that is comprised of specific structure, makeup, and functionality that provide a specific means or method (generally speaking, placing order icons in specific locations) for achieving the result of a more intuitive interface.” *Id.* at 12–13. Patent Owner argues that the claims are analogous to the claimed inventions in *CQG, McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d. 1299 (Fed. Cir. 2016) (“*McRO*”), and *Enfish*. *Id.* at 13–15. We disagree.

Claim 1 of the ’416 patent is unlike the claims at issue in *McRO*. In *McRO*, the court held that claims that recited “a specific asserted improvement in computer animation” were not directed to an unpatentable

abstract idea because they go “beyond merely organizing existing information into a new form or carrying out a fundamental economic practice.” *McRO*, 837 F.3d at 135. Here, the claims merely organize existing market information so that it is displayed in order for a trader to place an order, which is not a specific improvement to the functioning of a computer.

With respect to *CQG*, and as explained above, the claims before us are much broader than the claims involved there. The Specification of the ’416 patent is different from the patents involved in *CQG*. Thus, comparing the claims of the patents involved in *CQG* is not particularly helpful here. Moreover, the *CQG* decision relied upon a feature not required by claim 1 of the ’416 patent— a static price axis. Although claim 1 of the ’416 patent requires displaying a chart on a graphical user interface comprising a vertical price axis and a horizontal time axis, the claim does not require a static price axis. Nor are we persuaded that the claims are analogous to those in *Enfish* for reasons already discussed.

Patent Owner also argues that Petitioner’s arguments overgeneralize the claimed invention and ignore the claim elements that make up the specifically claimed GUI. PO Resp. 15–21, 35. We disagree that Petitioner has overgeneralized the claimed invention or ignored the claim elements. Petitioner’s arguments are commensurate in scope with the breadth of the claims. Nor are we persuaded by Patent Owner’s arguments that Petitioner has not shown that the claimed invention preempts the broad concept of graphing (or displaying) trading data or generating a trade order. *Id.* at 21–24. In particular, Patent Owner argues that while it is understood that pre-

emption may not be the sole test, it is a guide for understanding whether the claims are directed to the purported abstract idea. *Id.* Even Patent Owner, recognizes (*id.* at 22), however, that preemption is not the sole test for determining patent eligibility. In *McRO* our reviewing court explained that in considering preemption we should consider whether the claims “focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery.” *McRO*, 837 F.3d at 1314 (citing *Enfish*, 822 F.3d at 1335). Here, we determine that the claims are directed to an end result of displaying market data and placing a trade order based on the displayed data that invokes generic processes.

Patent Owner argues that the claimed invention provides a solution (and is not directed to a fundamental economic practice) by reciting a specific implementation of generating a trade order based on placement of an icon in a specific location of a chart, and as such, differentiates the claimed GUI tool from other GUI tools for generating trade orders. PO Resp. 24–27, 35–39. Patent Owner also argues that GUIs are technology (*id.* at 28–31), the claims of the ’416 patent recite an improvement to existing GUIs (*id.* at 31–34), and GUI’s are akin to mechanical devices (*id.* at 34–35). We have considered all of these arguments, but are not persuaded by such arguments for reasons already provided.

In addition, and to the extent that Patent Owner asserts that claims that require a GUI are automatically patent eligible, that assertion is not commensurate with our reviewing court’s holdings on the issue of patent eligibility. For example, the claim at issue in *Affinity Labs* recited an

application that enabled a cellular telephone to present a GUI displaying a list of media sources that included selectable items for selecting a regional broadcasting channel. *Affinity*, 838 F.3d at 1255–56. The claim also recited that the cellular telephone was enabled to transmit a request for the selected regional broadcasting channel. *Id.* at 1256. In *Ameranth*, the claim at issue recited a GUI that displayed menu items in a specific arrangement, a hierarchical tree format. Menu items were selected to generate a second menu from a first menu. *Apple*, 842 F.3d at 1234. In both *Affinity Labs* and *Ameranth*, the court determined that the claims were not directed to a particular way of programming or designing the software, but instead merely claim the resulting systems and determined that the claims are not directed to a specific improvement in the way computers operate. *Affinity Labs*, 838 F.3d at 1260–61; *Ameranth*, 842 F.3d at 1241. The same is true here in that the claims are not directed to any particular way of programming or designing software, but merely claim the resulting system and not any specific improvement in the way a computer operates.

Patent Owner also argues that the steps recited in the claims cannot be performed with pen and paper or in the human mind. PO Resp. 35–39. We disagree for the reasons stated above, namely that we agree with Petitioner that the '416 patent claims simply provide a graphical representation on a computer of what traders have done in their minds since trading began. Pet. 22–25 (citing *CyberSource Corp. v. Retail Decisions*, 654 F.3d 1366, 1372 (Fed. Cir. 2011) (unpatentable mental process performed with aid of pen and paper)); Ex. 1012 ¶¶ 67–70; Ex. 1001, 1:28–31, 1:53–63; Ex. 1033, 8–15; Ex. 1037, 3.

3. *Inventive Concept*

To be patent eligible, a claim to an otherwise abstract idea must recite additional elements that constitute an inventive concept. *Alice*, 134 S. Ct. at 2357. One looks to “[t]he elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Mayo*, 132 S. Ct. at 1297–98. The additional elements must be more than “well-understood, routine, conventional, activity.” *Id.* at 1298.

Petitioner argues that the claims do not recite an inventive concept. Pet. 27–35. Petitioner argues that the claims recite insignificant and conventional extra-solution activities of data gathering, dragging-and-dropping, sending orders, and arranging data and locations to place a trade on a display using conventional, well-known components (a computer device and input device). *Id.* Petitioner also argues that the claims are not rooted in computer technology. *Id.* at 35–40.

Notwithstanding Patent Owner’s arguments, which we address below, we are persuaded that Petitioner has shown that none of the additional claim elements in claim 1 or claims 2–24 transforms the nature of the claims into patent-eligible subject matter. Claim 1 recites a method for facilitating trading and displaying information regarding the buying and selling of a good. The method steps of claim 1 include displaying a chart on a graphical user interface having a vertical axis of price values and a horizontal axis of time, placing an order icon for a quantity of a good at a location along the vertical axis of price levels, and generating and sending the order to an electronic trading system. The Specification of the ’416 patent does not

disclose a particular way for data gathering, dragging-and-dropping, sending orders, and arranging data and locations to place a trade on a display, nor does the Specification provide or disclose any particular algorithms or rules for performing the recited functions of claim 1. All of the method steps of claim 1 are performed on a generic computer using known algorithms, as the '416 patent itself acknowledges that the computing device used to display the graphical user interface and that performs the claimed method and functions need not be any specific hardware, but can be “personal computers, terminals as part of a network, or any other computing device.” Ex. 1001, 4:34–36.

Based on the record before us, the functional steps of data gathering, dragging-and-dropping, sending orders, and arranging data and locations to place a trade on a display, were not novel or non-obvious, but rather known in the art at the time of the invention. *See, e.g.*, Pet. 29. We also agree with Petitioner that none of claims 2–24 transforms the nature of the claims into a patent-eligible application. Pet. 32–35. We agree that these claims recite well-understood, routine, conventional extra-solution activity that is not related to an inventive concept. *Mayo*, 132 S. Ct. at 1298.

Moreover, and to the extent that the claims require a GUI, a mere recitation of a GUI does not make the claim patent eligible. *See Affinity Labs*, 838 F.3d at 1257–58, *Ameranth*, 842 F.3d at 1236–42, *Internet Patent Corp.*, 790 F.3d at 1348–49. A recitation of a generic GUI merely limits the use of the abstract idea to a particular technological environment. “Limiting the field of use of the abstract idea to a particular existing technological environment does not render any claims less abstract.” *Affinity Labs*, 838 F.3d at 1258 (citing *Alice*, 134 St. Ct. at 2358; *Mayo*, 132 S. Ct. at 1294).

Patent Owner argues that the claims, in light of the Specification, pass part two of *Alice* because they recite an inventive concept. PO Resp. 39–43. Patent Owner contends that the combination of displaying market information and selecting and moving an icon to place an order is an inventive concept that transforms the abstract idea into a particular application. *Id.* at 41–43. Patent Owner relies upon the testimony of Mr. Christopher Thomas to show that the claimed invention was not well-known or conventional. *Id.* at 42 (citing Ex. 2169 ¶¶ 48–50). Mr. Thomas’s testimony is conclusory and does not specifically address the claimed invention. Selecting and moving an icon is a well-understood, routine, conventional activity that does not add significantly more to the abstract idea. *See* Ex. 1029, 247–249 (disclosing that drag-and-drop (i.e., clicking and holding a button while moving some object across a screen) is old and well known). Conventional post-solution activity is not sufficient to transform the abstract idea into patent-eligible subject matter. *See Parker v. Flook*, 437 U.S. 584, 590–92 (1978). The claims require nothing more than a generic computer to perform the method of the claims.

Patent Owner does not explain sufficiently what about the claims, or even the specification, qualifies as an inventive concept. For example, Patent Owner argues that the claimed combination specifies GUI features and functionality with great detail, and that the claims recite “structure of a specific GUI that functions differently from prior art GUIs to solve GUI-centric problems.” PO Resp. 40. Claim 1, for example, does not recite a GUI tool, nor does Patent Owner explain sufficiently what it is about method claim 1 that requires a GUI tool or makes it a GUI tool, or how the GUI tool

provides an enhanced display. Patent Owner fails to focus on the claims before us or explain with respect to the actual elements of these claims why such elements constitute an inventive concept. We are not persuaded by Patent Owner's arguments.

The individual elements of the claims do not transform the nature of the claims into a patent-eligible application. They do not add significantly more to the abstract idea or fundamental economic practice. Contrary to Patent Owner's argument, the claims simply recite the use of a generic computer with routine and conventional functions. Further, considering all of the elements as an ordered combination, we determine that the combined elements also do not transform the nature of the claims into a patent-eligible application.

Lastly, we have considered all of Patent Owner's arguments regarding case law and the claims and issues in those cases, along with how Petitioner allegedly misconstrues the claims and law to assert that the claims are not patent eligible. PO Resp. 43–63. We are aware of the cited cases and have discussed relevant case law throughout this opinion. We reiterate that we find the '416 claims to be similar to the claims in *Electric Power* and disagree with Patent Owner's argument that unlike the claims in *Electric Power*, “the claims of the '416 patent recite the process of constructing the interface rather than simply claiming a generic interface for displaying the results of an abstract process.” PO Resp. 51. Again, Patent Owner does not explain sufficiently what it is about the claims that recites the alleged patentable interface. We also disagree that Petitioner misconstrued the claims and law as provided above in this decision.

We have considered Petitioner’s showing and all of Patent Owner’s arguments, and determine, for all of the above reasons, Petitioner has shown sufficiently that claims 1–24 of the ’416 patent are not directed to patent eligible subject matter under 35 U.S.C. § 101.

D. 35 U.S.C. § 112 ¶ 4 Asserted Ground of Unpatentability

Petitioner contends that claims 2 and 15 are unpatentable under § 112 ¶ 4 as failing to further limit their respective base claims 1 and 14. Pet. 85. The fourth paragraph of § 112 states, “a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed.” 35 U.S.C. § 112 ¶ 4.

Each of claims 1 and 14 recites “displaying indicators representing historical trading data for the good.” Each of claims 2 and 15 depends from claims 1 and 14 respectively and recites “wherein the historical trading data is of the good, another good, or a combination of goods.”

Petitioner argues that claims 2 and 15 do not further limit the claimed subject matter of claims 1 and 14, but rather broaden the claimed subject matter of those claims. Pet. 85. In our Institution Decision, we made an initial determination that the claims were more likely than not unpatentable under 35 U.S.C. § 112 ¶ 4. Dec. 23–24. Patent Owner is silent with respect to Petitioner’s challenge to claims 2 and 15 under 35 U.S.C. § 112 ¶ 4. Based on the record before us, we agree with Petitioner that dependent claims 2 and 15 fail to specify a further limitation of the subject matter claimed, but rather expand the subject matter claimed by claiming that the association of

historical trading data from a good is to the same good, another good, or a combination of goods.

Based on the record before us, we determine that Petitioner has shown sufficiently that claims 2 and 15 are unpatentable under 35 U.S.C. § 112 ¶ 4.

D. Patent Owner's Motion to Exclude

Patent Owner moves to exclude Exhibit 1015 and 1016 (TSE⁴), Mr. Kawashima's deposition (Ex. 1018), and portions of Exhibit 1060 (the cross examination testimony of Mr. Thomas). PO Mot. to Exclude 1. Patent Owner seeks to exclude Exhibits 1015 and 1016 as not relevant under Rules 401 and 402 of the Federal Rules of Evidence (FRE) and because the exhibits have not been authenticated under FRE 901. *Id.* at 1–4. Patent Owner also seeks to exclude Exhibit 1018 as hearsay, and pages 248, and 263–269 of Exhibit 1060 (the cross examination testimony of Mr. Thomas) as prejudicial and confusing. *Id.* at 4–13. In rendering our Final Decision, we did not and need not consider Exhibits 1015, 1016, 1018 or pages 248, and 263–269 of Exhibit 1060. We have determined that Petitioner has demonstrated, by a preponderance of the evidence, that the challenged claims are unpatentable, without considering Exhibits 1015, 1016, 1018 or pages 248, and 263–269 of Exhibit 1060. Accordingly, Patent Owner's Motion to Exclude is *dismissed*.

⁴ TOKYO STOCK EXCHANGE OPERATION SYSTEM DIVISION, FUTURES/OPTION PURCHASING SYSTEM TRADING TERMINAL OPERATION GUIDE (1998) (Ex. 1016) ("TSE"). Exhibit 1015 is the Japanese version of TSE.

III. CONCLUSION

For the foregoing reasons, we determine that Petitioner has shown, by a preponderance of the evidence, that claims 1–24 of the '416 patent are patent ineligible under 35 U.S.C. § 101, and that claims 2 and 15 also are unpatentable under 35 U.S.C. § 112 ¶ 4.

IV. ORDER

It is:

ORDERED that claims 1–24 of the '416 patent are patent-ineligible under 35 U.S.C. § 101;

FURTHER ORDERED that claims 2 and 15 are unpatentable under 35 U.S.C. § 112 ¶ 4;

FURTHER ORDERED that Patent Owner's Motion to Exclude is *dismissed*; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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