No. A-____

IN THE

Supreme Court of the United States

TRADING TECHNOLOGIES INTERNATIONAL, INC.,

Petitioner,

v.

IBG LLC, INTERACTIVE BROKERS, LLC,

Respondents,

UNITED STATES,

Intervenor.

PETITIONER'S APPLICATION TO EXTEND TIME TO FILE PETITION FOR A WRIT OF CERTIORARI

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To the Honorable John G. Roberts, Jr., Chief Justice of the United States, as Circuit Justice for the Federal Circuit:

Pursuant to this Court's Rule 13.5, Petitioner Trading Technologies International, Inc. ("TT") respectfully requests an extension of 60 days, to and including September 16, 2019, to file a Petition for a Writ of Certiorari in this matter. The United States Court of Appeals for the Federal Circuit issued its judgment affirming the decisions of the Patent Trial and Appeal Board on April 18, 2019 (App. A). Absent an extension of time, the Petition would be due on July 17, 2019. TT is filing this application more than 10 days before that date. This Court has jurisdiction pursuant to 28 U.S.C. § 1254(1).

Background

TT owns U.S. Patent Nos. 7,904,374 ("the '374 patent"), 7,533,056 ("the '056 patent"), and 7,212,999 ("the '999 patent"). Respondents IBG LLC and Interactive Brokers LLC (collectively, "IB") filed petitions requesting Covered Business Method ("CBM") Review of the '374, '056, and '999 patents. The Patent Trial and Appeal Board (the "Board") instituted CBM Review for all three patents and issued Final Written Decisions ("FWD") invalidating all of the claims (App. B; App. C; App. D). TT appealed all three decisions.

On September 27, 2017, the Federal Circuit docketed an appeal (17-2621) from the Board's FWD in CBM2016-00051, involving the '374 patent. TT appealed the Board's erroneous conclusions that: (1) it had jurisdiction to institute CBM Review based on its mistaken belief that the '374 invention is not a technological invention,

and (2) the '374 invention is not patent-eligible under 35 U.S.C. § 101. TT also raised

the issue of whether the America Invents Act ("AIA"), through CBM Review, violates

the U.S. Constitution.

On July 3, 2017, the Federal Circuit docketed an appeal (17-2257) from the

Board's FWD in CBM2015-00179, involving the '056 patent. TT appealed the Board's

erroneous conclusions that: (1) it had jurisdiction to institute CBM Review based on

its mistaken belief that the '056 invention is not a technological invention, (2) the '056

invention is not patent-eligible under 35 U.S.C. § 101, and (3) the '056 invention is

obvious under 35 U.S.C. § 103. TT also raised the issue of whether the AIA, though

CBM Review, violates the U.S. Constitution.

On October 16, 2017, the Federal Circuit docketed an appeal (18-1063) from the

Board's FWD in CBM2016-00032, involving the '999 patent. TT appealed the Board's

erroneous conclusions that: (1) it had jurisdiction to institute CBM Review based on

its mistaken belief that the '999 invention is not a technological invention, and (2) the

'999 invention is not patent-eligible under 35 U.S.C. § 101. TT also raised the issue of

whether the AIA, though CBM Review, violates the U.S. Constitution.

On November 20, 2017, Appeal Nos. 17-2621, 17-2257, and 18-1063 were

designated as companion cases, to be assigned to the same merits panel. On July 9,

2018, the United States filed a motion for leave to intervene in all three cases in order

to address TT's constitutionality challenges, and on July 31, 2018, those motions were

granted.

On April 18, 2019, the United States Court of Appeals for the Federal Circuit issued its judgment affirming the Board's decisions (App. A). It held that the patents were subject to CBM Review and invalid under 35 U.S.C. § 101. It declined to address TT's constitutionality challenges or the obviousness of the claims of the '056 patent under 35 U.S.C. § 103.

<center>Reasons for Granting the Extension</center>

A 60-day extension is necessary and appropriate for several reasons:

1.   In addition to the three patents at issue here, ten of TT's other patents are the subject of appeals before the Federal Circuit between the same parties.[1] Additionally, four of TT's patents are currently being litigated in the Northern District of Illinois. That matter is scheduled to go to trial on February 3, 2020. As TT is involved in several other matters, an extension will enable TT to coordinate petition filings across the other TT proceedings, and also account for counsel's obligations in other matters to other courts. TT does not seek any unnecessary delay from the extension requested here, but only to insure fully developed and appropriate arguments in these multiple pending appeals.

2.   Based on TT's extension requests before the Federal Circuit, TT's petitions for panel rehearing and rehearing en banc are currently due to be filed with the Federal Circuit on July 22, 2019. Five of the other TT appeals have the same Federal Circuit petition deadline. TT's Petition for a Writ of Certiorari before this

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[1] Respondent IB is a party to all of those appeals except for one, which involves only TT and the United States.

<center>3</center>

Court is currently due five days before, on July 17, 2019. Because TT would like to

decide on whether to file petitions for panel rehearing or rehearing en banc with the

Federal Circuit before deciding on whether to file a Petition for a Writ of Certiorari,

TT believes an extension is necessary in this case.

      3.   This case presents several extraordinarily important and complex issues

warranting a carefully prepared Petition. The issues described above are

fundamental to the operation the AIA and CBM Review proceedings. As such, it is

important that the issues be properly framed to best assist the Court in its task of

clarifying the law.

      4.   On July 1, 2019, counsel for TT discussed extending the deadline for a

Petition in this matter by 60 days with counsel for IB and counsel for the United

States. Counsel for the United States indicated that it did not oppose an extension,

and accordingly, will not be prejudiced by an extension. Although counsel for IB

indicated that it did oppose this motion, it also will not be prejudiced by an extension.

Under either the current or the extended filing date, the Court would be able to hear

TT's appeal, were it to grant a writ of certiorari, in its October 2019 term.

<p style="text-align:center">Conclusion</p>

For the foregoing reasons, TT respectfully requests that the time to file a

Petition for a Writ of Certiorari be extended by 60 days, to and including September

16, 2019.

Respectfully submitted,

Date: July 5, 2019   _____

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CERTIFICATE OF SERVICE

Pursuant to Supreme Court Rule 29, I hereby certify that on July 5, 2019, I caused a copy of the foregoing Petitioner's Application To Extend Time To File Petition For A Writ of Certiorari (1) to be served via first-class mail, postage prepaid, on and (2) to be transmitted electronically to:

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APPENDICES

App. A	Slip Opinion, *Trading Techs. Int'l Inc. v. IBG LLC*, No. 17-2257, 17-2621, 18-1063 (Fed. Cir. Apr. 18, 2019)
App. B	Final Written Decision, *IBG LLC v. Trading Techs. Int'l Inc.*, CBM2016-00051 (P.T.A.B. Aug. 7, 2017)
App. C	Final Written Decision, *IBG LLC v. Trading Techs. Int'l Inc.*, CBM2015-00179 (P.T.A.B. Feb. 17, 2017)
App. D	Final Written Decision, *IBG LLC v. Trading Techs. Int'l Inc.*, CBM2016-00032 (P.T.A.B. Aug. 14, 2017)

Appendix

A

UNITED STATES,
Intervenor

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2017-2621

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Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. CBM2016-00051.

TRADING TECHNOLOGIES INTERNATIONAL, INC.,
Appellant

v.

IBG LLC, INTERACTIVE BROKERS LLC,
Appellees

UNITED STATES,
Intervenor

_____

2018-1063

_____

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. CBM2016-00032.

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Decided: April 18, 2019

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MICHAEL DAVID GANNON, Baker & Hostetler LLP, Chicago, IL, argued for appellant. Also represented by LEIF R. SIGMOND, JR., JENNIFER KURCZ; ALAINA J. LAKAWICZ, Philadelphia, PA; COLE BRADLEY RICHTER, McDonnell, Boehnen, Hulbert & Berghoff, LLP, Chicago, IL; STEVEN BORSAND, JAY QUENTIN KNOBLOCH, Trading Technologies International, Inc., Chicago, IL.

BYRON LEROY PICKARD, Sterne Kessler Goldstein & Fox, PLLC, Washington, DC, argued for appellees. Also represented by ROBERT EVAN SOKOHL, RICHARD M. BEMBEN, JON WRIGHT; MICHAEL T. ROSATO, Wilson, Sonsini, Goodrich & Rosati, PC, Seattle, WA.

KATHERINE TWOMEY ALLEN, Appellate Staff, Civil Division, United States Department of Justice, Washington, DC, argued for intervenor. Also represented by MARK R. FREEMAN, SCOTT R. MCINTOSH, JOSEPH H. HUNT; THOMAS W. KRAUSE, JOSEPH MATAL, FARHEENA YASMEEN RASHEED, Office of the Solicitor, United States Patent and Trademark Office, Alexandria, VA.

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Before MOORE, MAYER, and LINN, *Circuit Judges.*

MOORE, *Circuit Judge.*

Trading Technologies International, Inc., ("TT") is the owner of U.S. Patent Nos. 7,533,056, 7,212,999, and 7,904,374. Each patent relates generally to a graphical user interface ("GUI") for electronic trading. The '056 and '999 patents, which share a specification, disclose "a user interface for an electronic trading system that allows a remote trader to view trends in the orders for an item, and provides the trading information in an easy to see and interpret graphical format." '999 patent at 1:3–6. The '374 patent, which is from a different patent family, discloses "a display and trading method to ensure fast and accurate execution of trades by displaying market depth on a vertical

or horizontal plane, which fluctuates logically up or down, left or right across the plane as the market prices fluctuate[]." '374 patent at 3:54–58.

IBG LLC and Interactive Brokers LLC (collectively, "Petitioners") petitioned for review of claims 1–15 of the '056 patent, claims 1–35 of the '999 patent, and claims 1–36 of the '374 patent pursuant to the Transitional Program for Covered Business Method Patents ("CBM review"). Leahy-Smith Am. Invents Act, Pub. L. No. 112-29, § 18(a) 125 Stat. 284, 329–31 (2011) ("AIA"). In each case, the Patent Trial and Appeal Board instituted CBM review and issued final written decisions holding that the patents meet the criteria to be eligible for CBM review and the claims are ineligible under 35 U.S.C. § 101. The Board additionally held that the claims of the '056 patent would have been obvious.

TT appeals from each decision. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A). For the following reasons, we affirm.

DISCUSSION

I. CBM Eligibility

Pursuant to § 18(a)(1)(E) of the AIA, the Board may only institute CBM review for a patent that is a CBM patent. A CBM 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.*" *Id.* § 18(d)(1) (emphasis added). Pursuant to its authority under § 18(d)(2), the Patent and Trademark Office ("PTO") promulgated 37 C.F.R. § 42.301(b), which requires the Board to consider the following on a case-by-case basis in determining whether a patent is for a technological invention: "whether the claimed subject matter as a whole recites a technological feature that is novel and unobvious

over the prior art" and whether it "solves a technical problem using a technical solution." We review the Board's reasoning "under the arbitrary and capricious standard and its factual determinations under the substantial evidence standard." *SightSound Techs., LLC v. Apple Inc.*, 809 F.3d 1307, 1315 (Fed. Cir. 2015).

The only issue of CBM eligibility that TT contests is whether its patents are for technological inventions.

A. The '999 and '056 Patents

The Board relied on claim 1 of the '999 patent and claim 1 of the '056 patent to determine that those patents are directed to a covered business method. Claim 1 of the '999 patent recites:

1. A computer based method for facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

> displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of prices corresponding to a price associated with the at least one bid;

> displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of prices corresponding to a price associated with the at least one offer;

> receiving market information representing a new order to buy a quantity of the item

for a specified price, and in response to the received market information, generating a bid indicator that corresponds to the quantity of the item bid for and placing the bid indicator along the first scaled axis of prices corresponding to the specified price of the bid;

receiving market information representing a new order to sell a quantity of the item for a specified price, and in response to the received market information, generating an offer indicator that corresponds to the Quantity of the item for which the offer is made and placing the offer indicator along the first scaled axis of prices corresponding to the specified price of the offer;

displaying an order icon associated with an order by the user for a particular quantity of the item;

selecting the order icon and moving the order icon with a pointer of a user input device to a location associated with a price along the first scaled axis of prices; and

sending an order associated with the order icon to an electronic trading exchange, wherein the order is of a bid type or an offer type and the order has a plurality of order parameters comprising the particular quantity of the item and the price corresponding to the location at which the order icon was moved.

Claim 1 of the '056 patent is similar. It recites:

1. A method of operation used by a computer for displaying transactional information and

facilitating trading in a system where orders comprise a bid type or an offer type, the method comprising:

receiving bid and offer information for a product from an electronic exchange, the bid and offer information indicating a plurality of bid orders and a plurality of offer orders for the product;

displaying a plurality of bid indicators representing quantity associated with the plurality of bid orders, the plurality of bid indicators being displayed at locations corresponding to prices of the plurality of bid orders along a price axis;

displaying a plurality of offer indicators representing quantity associated with the plurality of offer orders, the plurality of offer indicators being displayed at locations corresponding to prices of the plurality offer orders along the price axis;

receiving a user input indicating a default quantity to be used to determine a quantity for each of a plurality of orders to be placed by the user at one or more price levels;

receiving a user input indicating a desired price for an order to be placed by the user, the desired price being specified by selection of one of a plurality of locations corresponding to price levels along the price axis; and

sending the order for the default quantity at the desired price to the electronic exchange.

We agree with the Board that these claims are directed to a covered business method and thus CBM review was appropriate. These claims are directed to a financial trading method used by a computer. We see no technological invention in this software method for trading. The claims require receiving bid and offer information from an electronic exchange, displaying such information ("bid indicators" and "offer indicators"), and sending an order to the electronic exchange based on a user input. The two claims differ mainly in the way the user places the order (clicking and dragging an "order icon" to a location on the price axis versus selecting a point on the price axis). In each case, the Board applied the considerations of § 42.301(b) and found that the claims do not recite a technological feature that is novel and unobvious over the prior art and do not solve a technical problem with a technical solution for essentially the same reasons.

TT argues the Board erred in applying the first consideration of § 42.301(b) based on our decision in *Versata Development Group Inc. v. SAP America, Inc.*, 793 F.3d 1306 (Fed. Cir. 2015). According to TT, *Versata* set aside the novelty and nonobviousness language of the regulation, leaving the definition of a technological invention as one having a technological feature that solves a technical problem using a technical solution. *E.g.*, Appellant Br. 24–25, No. 18-1063 (citing 793 F.3d at 1326). We need not decide this issue because we agree with the Board that the considered claims do not solve a technical problem using a technical solution. *See Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016) ("We need not address this argument regarding whether the first prong of 37 C.F.R. § 42.301(b) was met, as we affirm the Board's determination on the second prong of the regulation . . . .").

TT argues the inventions addressed technical problems in the way prior art GUI tools were constructed and operated. It claims the '999 patent addressed problems related to speed, efficiency, and usability, and the '056 patent

addressed problems related to intuitiveness, visualization, and efficiency. We agree with the Board that the patents relate to the practice of a financial product, not a technological invention. The specification states that a successful trader anticipates the market to gain an advantage, '999 patent at 1:20–26, but doing so is difficult because it requires assembling data from various sources and processing that data effectively, *id.* at 1:51–54. The invention solves this problem by displaying trading information "in an easy to see and interpret graphical format." *Id.* at 2:3–6. The specification makes clear that the invention simply displays information that allows a trader to process information more quickly. *Id.* at 1:59–62 ("[A] system is needed in which trend information of market demand for an individual item is provided to traders in an intuitive format which allows traders to quickly interpret how market demand is changing to an item."); *id.* at 2:39–41 ("The user interface of the present invention presents this information in an intuitive format, allowing the trader to make informed decisions quickly."); *id.* at 2:57–62 (noting that displaying the user's trades in a different color "allows the trader to quickly determine his or her relative position in the marketplace"); *id.* at 3:37–44 (noting that "the trader is able to make instantaneous decisions regarding an item while receiving critical information about other items or the past performance of the current item and other indices," which "is a major advantage over conventional methods of trading in which this information is not provided concurrently, and if presented at all, is difficult to process quickly"). This invention makes the *trader* faster and more efficient, not the computer. This is not a technical solution to a technical problem.

TT argues that the Board erred in the CBM review of the '999 patent when it declined to consider the testimony of its expert Mr. Christopher Thomas. Even if TT was correct, the error would be harmless as Mr. Thomas' declaration acknowledges that conventional GUIs for electronic

trading dynamically displayed trading information and permitted users to trade directly from the interface. J.A. 8610–12, No. 18-1063. Nothing in his declaration asserts that the claimed interface did anything other than present information in a new and more efficient way to traders. Even if the Board had considered this testimony, it could not have reached a different conclusion.

Accordingly, we agree that the '999 and '056 patents are not for a technological invention and thus are eligible for CBM review.

B. The '374 Patent

The Board relied on claim 1 of the '374 patent to determine that the patent is directed to a covered business method. Claim 1 of the '374 patent recites:

1. A method for facilitating trade order entry, the method comprising:

receiving, by a computing device, market data for a commodity, the market data comprising a current highest bid price and a current lowest ask price available for the commodity;

identifying, by the computing device, a plurality of sequential price levels for the commodity based on the market data, where the plurality of sequential price levels includes the current highest bid price and the current lowest ask price;

displaying, by the computing device, a plurality of graphical locations aligned along an axis, where each graphical location is configured to be selected by a single action of a user input device to send a trade order to the electronic exchange, where a price of

the trade order is based on the selected graphical location;

mapping, by the computing device, the plurality of sequential price levels to the plurality of graphical locations, where each graphical location corresponds to one of the plurality of sequential price levels, where each price level corresponds to at least one of the plurality of graphical locations, and where mapping of the plurality of sequential price levels does not change at a time when at least one of the current highest bid price and the current lowest ask price changes; and

setting a price and sending the trade order to the electronic exchange in response to receiving by the computing device commands based on user actions consisting of: (1) placing a cursor associated with the user input device over a desired graphical location of the plurality of graphical locations and (2) selecting the desired graphical location through a single action of the user input device.

The Board determined that claim 1 of the '374 patent does not recite a novel and unobvious technical feature and does not solve a technical problem with a technical solution. For purposes of our technological invention analysis, we see no meaningful difference between the '374 claims and the '999 and '056 claims.

TT argues the '374 invention solves a technical problem with the design of conventional electronic trading GUIs. According to TT, this GUI solves a problem that might cause the trader to submit an order at a price he did not intend.

We agree with the Board that claim 1 does not solve the alleged technical problem of missing an intended price. Claim 1 recites "displaying . . . a plurality of graphical locations aligned along an axis" and "mapping, by the computing device, the plurality of sequential price levels to the plurality of graphical locations." The only information required to be displayed are the plurality of graphical locations. The Board explained that its institution decision set forth its understanding that claim 1 "provide[s] no indication to a user of market information, such as price, order quantity, or order type[,] and the graphical locations simply could be 'black boxes' with price values associated with them, and *no information provided to the user* indicating that price value, the order quantity, or the order type." J.A. 14–15, No. 17-2621 (internal quotation marks omitted). TT did not dispute this characterization of the claim. Even if the specification recites an embodiment that solves this problem, as TT alleges, claim 1 does not.

Claim 1 also recites that "mapping of the plurality of sequential price levels does not change at a time when at least one of the current highest bid price and the current lowest ask price changes." This limitation differs from what is stated in the specification when discussing Figures 3 and 4, where it explains that "[t]he values in the price column are static," i.e., "they do not normally change positions unless a re-centering command is received." '374 patent at 7:32–34. We are not convinced that maintaining the same mapping "at a time" when the price changes solves the purported problem, as it does not specify what happens immediately after the price changes.

TT also argues that the claimed invention improves speed, accuracy, and usability compared to prior art GUI tools, which are necessarily rooted in computer technology. As discussed, these purported improvements are not technological. The specification states that the invention "provide[s] the trader with improved efficiency and versatility in placing, and thus executing, trade orders for

commodities in an electronic exchange." '374 patent at
3:21–24. This is focused on improving the trader, not the
functioning of the computer. Indeed, the specification
acknowledges that the invention "can be implemented on
any existing or future terminal with the processing capa-
bility to perform the functions described," *id.* at 4:4–6, and
"is not limited by the method used to map the data to the
screen display," which "can be done by any technique
known to those skilled in the art," *id.* at 4:64–67.

We conclude that the Board's reasoning that claim 1
did not solve a technical problem with a technical solution
was not arbitrary and capricious.

II. PATENT ELIGIBILITY

We review the Board's legal conclusions de novo and its
factual findings for substantial evidence. *Ameranth*, 842
F.3d at 1236.

"Whoever invents or discovers any new and useful pro-
cess, machine, manufacture, or composition of matter, or
any new and useful improvement thereof," may obtain a
patent. 35 U.S.C. § 101. As a judicially created exception
to this provision, "[l]aws of nature, natural phenomena,
and abstract ideas are not patent eligible." *Alice Corp. Pty.
Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014) (quoting
Assoc. for Molecular Pathology v. Myriad Genetics, Inc., 569
U.S. 576, 589 (2013)). All inventions at some level "em-
body, use, reflect, rest upon, or apply" these concepts, but
if an invention applies these concepts to a new and useful
end, it is patent eligible. *Id.* at 217. The Supreme Court
has established a two-step framework for "distinguishing
patents that claim laws of nature, natural phenomena, and
abstract ideas from those that claim patent-eligible appli-
cations of those concepts. *Id.* "First, we determine whether
the claims at issue are directed to" a patent-ineligible con-
cept. *Id.* If so, "we 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.* (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 78–79 (2012)).

A. The '999 Patent

At *Alice* step one, we must "determine whether the claims at issue are directed to a patent-ineligible concept." *Alice*, 573 U.S. at 218. Under this inquiry, we evaluate "the focus of the claimed advance over the prior art" to determine if the character of the claim as a whole, considered in light of the specification, is directed to excluded subject matter. *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1338 (Fed. Cir. 2017) (quoting *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016)).

The parties treat claim 1 of the '999 patent as representative. The Board determined claim 1 is directed to "the abstract idea of graphing (or displaying) bids and offers to assist a trader to make an order." J.A. 22, No. 18-1053. We agree. The claim's preamble states that it is a "computer based method for facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items." The method steps require "displaying" a plurality of bid and offer indicators along a "scaled axis of prices," "receiving market information," displaying that information along the axis, and "displaying" information pertaining to a user's order. This essentially describes receiving information, which the specification admits was already available to "market makers," '999 patent at 1:35–41, and displaying that information. "[W]e have treated collecting information, including when limited to particular content (which does not change its character as information), as within the realm of abstract ideas." *Electric Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016).

Claim 1 also recites sending an order by "selecting" and "moving" an order icon to a location along the price axis.

This does not change our determination that the claims are directed to an abstract idea. As the Board determined, placing an order based on displayed market information is a fundamental economic practice. J.A. 23–24, No. 18-1063 (citing J.A. 3379–80, No. 18-1063). The fact that the claims add a degree of particularity as to how an order is placed in this case does not impact our analysis at step one. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014) ("Although certain additional limitations, such as consulting an activity log, add a degree of particularity, the concept embodied by the majority of the limitations describes only the abstract idea of showing an advertisement before delivering free content.").

The fact that this is a "computer-based method" does not render the claims non-abstract. The specification indicates the claimed GUI is displayed on any computing device. '999 patent at 4:34–37, 6:6–8. As a general rule, "the collection, organization, and display of two sets of information on a generic display device is abstract." *Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335, 1345 (Fed. Cir. 2018). Relying principally on *Core Wireless Licensing S.A.R.L. v. LG Electronics, Inc.*, 880 F.3d 1356 (Fed. Cir. 2018), TT argues the claimed invention provides an improvement in the way a computer operates. We do not agree. The claims of the '999 patent do not improve the functioning of the computer, make it operate more efficiently, or solve any technological problem. Instead, they recite a purportedly new arrangement of generic information that assists traders in processing information more quickly. *E.g.*, '999 patent at 2:39–41. We conclude that the claims are directed to the abstract idea of graphing bids and offers to assist a trader to make an order.

At step two, we "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." *Alice*, 573 U.S. at 218 (quoting *Mayo*, 566 U.S. at 78–79). Step

two "looks more precisely at what the claim elements add" to determine if "they identify an inventive concept in the application of the ineligible matter to which . . . the claim is directed." *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1167 (Fed. Cir. 2018) (internal quotation marks omitted). The abstract idea itself cannot supply the inventive concept, "no matter how groundbreaking the advance." *Id.* at 1171.

The Board held that the claims do not contain an inventive concept. It determined that receiving market information is simply routine data gathering, and displaying information as indicators along a scaled price axis is well-understood, routine, conventional activity that does not add something significantly more to the abstract idea. J.A. 28, No. 18-1063 (citing, *e.g.*, J.A. 2804, 3301, 3379–80, No. 18-1063). It likewise determined that selecting and moving an icon is well-understood, routine, conventional activity. J.A. 28–29, No. 18-1063 (citing J.A. 3871–73, No. 18-1063). It considered the elements both individually and as an ordered combination and concluded they did not transform the claim into a patent eligible application of the abstract idea. We agree.

B. The '056 Patent

The parties treat claim 1 of the '056 patent as representative except as to dependent claims 5–7. Like the '999 patent, the Board at step one determined claim 1 is directed to "the abstract idea of graphing (or displaying) bids and offers to assist a trader to make an order." J.A. 20–21, No. 17-2257. We agree. In claim 1 of the '056 patent, the preamble states the claim is a "method of operation used by a computer for displaying transactional information and facilitating trading." The method steps require "receiving bid and offer information," "displaying" bid and offer indicators associated with the information, "receiving a user input indicating a default quantity," "receiving" a selection of a price along the price axis, and "sending" the order.

We see no meaningful difference between these limitations and the similar limitations of claim 1 in the '999 patent and thus reach the conclusion that it too is directed to an abstract idea. While the claims disclose different ways of submitting orders and use slightly different terminology, these differences have no effect on our eligibility determination at step one.

At step two, the Board held the elements, both individually and as an ordered combination, do not recite an inventive concept. TT argues the claims improve computer functionality by improving on the intuitiveness and efficiency of prior GUI tools. The specification makes clear that this invention helps the trader process information more quickly. This is not an improvement to computer functionality, as alleged by TT. We see no merit to TT's argument and affirm the Board's conclusion that claims 1–4 and 8–15 are patent ineligible.

TT separately argues that the additional limitations of dependent claims 5–7 render the claims eligible. Claim 5 depends from claim 1 and further recites "displaying an order icon at a location that corresponds to the desired price level along the price axis, the order icon indicating the user's order at the electronic exchange." Claims 6 and 7 each depend from claim 5 and recite further details about the bid and offer indicators and the order icon. TT argues the "order icon" of claim 5 must be a distinct icon from the bid and offer indicators. These limitations do not change our analysis, as simply displaying all the bids and offers in the aggregate, including the user's bids and offers, is not enough.

We have considered TT's arguments and find them to be without merit.

C. The '374 Patent

At step one, the Board held that claim 1 of the '374 patent is directed to the abstract idea of receiving user input

to send a trade order. It explained that "claim 1 only minimally requires collecting and analyzing information and includes no requirement that any of that information is displayed. J.A. 16, No. 17-2621. This is because the claims require "displaying . . . graphical locations along an axis" but do not require the graphical locations to display the price levels that are mapped to them. Based on the Board's understanding, the graphical locations need not provide any information to the user. This understanding of claim 1 was laid out in the institution decision, and TT did not dispute it.

Much of TT's argument at step one is the same as its argument that the patent is for a technological invention. It argues claim 1 recites a specific, structured GUI that solves the price-flipping problem of prior art interfaces. It argues that such an improvement over prior art interfaces inherently improves the functioning of a computer. These arguments are unavailing.

TT had an opportunity to dispute the Board's characterization of the claims after institution but chose not to do so. We agree with the Board that claim 1 is directed to the abstract idea of receiving a user input to send a trade order.

At step two, the Board held the elements of claim 1, individually or as an ordered combination, do not add an inventive concept. It noted that the specification discloses that the invention can be implemented "on any existing or future terminal or device" and describes the programming as insignificant. J.A. 20, No. 17-2621 (citing '374 patent at 4:4–7, 4:60–67). It also noted that TT acknowledged that conventional GUIs for electronic trading permitted a trader to send an order electronically. J.A. 20, No. 17-2621 (citing J.A. 269, No. 17-2621).

TT repeats its argument that claim 1 improves computer functionality by solving technological problems with prior art electronic trading interfaces. But as previously explained, claim 1 does not solve any purported

technological problem. We have considered TT's remaining arguments with regard to claim 1 and the dependent claims and find them to be without merit.

III. Prior Decisions

TT argues that because non-precedential decisions of this court held that other TT patents were for technological inventions or claimed eligible subject matter, we should too. We are not bound by non-precedential decisions at all, much less ones to different patents, different specifications, or different claims. Each panel must evaluate the claims presented to it. Eligibility depends on what is claimed, not all that is disclosed in the specification. *See Data Engine Techs. LLC v. Google LLC*, 906 F.3d 999, 1011–12 (Fed. Cir. 2018) (holding a claim from one patent ineligible and claims from other patents that shared a specification eligible).

IV. Constitutionality of CBM Review

TT argues the decisions should all be vacated because CBM review is unconstitutional. In a total of four sentences in each of its opening briefs, TT raises challenges based on a right to a jury under the Seventh Amendment, separation of powers under Article III, the Due Process Clause, and the Taking Clause. Such a conclusory assertion with no analysis to the underlying challenge is insufficient to preserve the issue for appeal. *See United States v. Great Am. Ins. Co. of N.Y.*, 738 F.3d 1320, 1328 (Fed. Cir. 2013) ("It is well established that arguments that are not appropriately developed in a party's briefing may be deemed waived."); *SmithKline Beecham Corp. v. Apotex Corp.*, 439 F.3d 1312, 1320 (Fed. Cir. 2006) (holding that "mere statements of disagreement . . . do not amount to a developed argument" sufficient to preserve the issue). We decline to address TT's constitutional challenges.

CONCLUSION

We have considered TT's other arguments and find them unpersuasive. For the foregoing reasons, we conclude that the patents at issue are CBM eligible and that claims 1–15 of the '056 patent, claims 1–35 of the '999 patent, and claims 1–36 of the '374 patent are ineligible. In light of this conclusion, we need not address Petitioners' separate ground that the claims of the '056 patent would have been obvious.

AFFIRMED

Appendix

B

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.
_____

Case CBM2016-00051
Patent 7,904,374 B2
_____

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

PLENZLER, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Covered Business Method Patent Review
35 U.S.C. § 328(a) and 37 C.F.R. § 42.73

INTRODUCTION

A. Background

IBG LLC, Interactive Brokers LLC, TradeStation Group, Inc., and TradeStation Securities, Inc. (collectively, "Petitioner") filed a Petition on March 29, 2016 requesting covered business method patent review of claims 1–36 (the "challenged claims") of U.S. Patent No. 7,904,374 B2 (Ex. 1001, "the '374 patent"). Paper 3 ("Pet."). On July 5, 2016, Trading Technologies International, Inc. ("Patent Owner") filed a Preliminary Response. Paper 8 ("Prelim. Resp."). On August 17, 2016, we instituted a covered business method patent review (Paper 11, "Institution Decision" or "Inst. Dec.") based upon Petitioner's assertion that claims 1–36 are directed to patent ineligible subject matter under 35 U.S.C. § 101. Inst. Dec. 22. Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 18, "PO Resp.") and Petitioner filed a Reply (Paper 23, "Pet. Reply") to Patent Owner's Response. Pursuant to our authorization, Patent Owner filed an additional submission addressing the Federal Circuit's holding in *Technologies International, Inc., v. CQG, Inc.*, No. 2016-1616, 2017 WL 192716 (Fed. Cir. Jan. 18, 2017) ("*CQG*") (Paper 29, "PO Add'l Sub."), and Petitioner filed a reply to that submission (Paper 30). Petitioner filed a Motion to Exclude Evidence (Paper 31), and Patent Owner also filed a Motion to Exclude Evidence (Paper 34).

We held a joint hearing of this case and several other related cases on May 3, 2017. Paper 43 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 328(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has shown

sufficiently that claims 1–36 of the '374 patent are directed to patent ineligible subject matter under 35 U.S.C. § 101.

B. Related Proceedings

The parties indicate numerous related U.S. district court proceedings, including at least one proceeding specifically directed to the '374 patent. Pet. 2; Paper 6, 1–5.

Numerous patents are related to the '374 patent and the related patents are or were the subject of numerous petitions for covered business method patent review and reexamination proceedings. As noted above, the Federal Circuit has issued a non-precedential decision, *CQG*, which addresses whether claims of U.S. Patent Nos. 6,766,304 ("the '304 patent") and 6,772,132 ("the '132 patent") are patent eligible under § 101. The '374 patent at issue in this case is related to the '132 and '304 patents via continuation and divisional filings.

C. Asserted Grounds

Petitioner contends that the challenged claims are unpatentable under 35 U.S.C. § 101. Pet. 27–50.

D. The '374 Patent

The '374 patent is titled "Click Based Trading with Intuitive Grid Display of Market Depth." Ex. 1001, (54). The '374 patent describes a display, named the "Mercury" display, and method of using the display to trade a commodity. *Id*. at Abstract, 3:5–10. The '374 patent explains that the Mercury display is a graphic user interface ("GUI") that dynamically displays the market depth of a commodity traded in a market and allows a trader to place an order efficiently. *Id*. at 3:11–20. The Mercury display is depicted in Figure 3, which is reproduced below.

FIG. 3

Figure 3 of the '374 patent illustrates an example of the Mercury display with example values for trading a commodity, including prices, bid and ask quantities relative to price, and trade quantities.

The Mercury display includes a plurality of columns. Column 1005 is a static price axis, which includes a plurality of price values for the commodity. *See id.* at 7:23–25. The '374 patent explains that "[t]he column does not list the whole prices (e.g. 95.89), but rather, just the last two digits (e.g. 89)." *Id.* at 7:25–26. Columns 1003 and 1004 are aligned with the static price axis and dynamically display bid and ask quantities, respectively, for the corresponding price values of the static price axis. *See id.* at 7:23–37. The '374 patent explains that "[t]he exchange sends the price, order and fill information to each trader on the exchange" and that "[t]he physical

mapping of such information to a screen grid can be done by any technique known to those skilled in the art." *Id.* at 4:59–66.

Column 1002 contains various parameters and information used to execute trades, such as the default quantity displayed in cell 1016. *See id.* at 7:55–8:23. A trader executes trades using the Mercury display by first setting the desired commodity and default parameters, such as default quantity. *See id.* at 8:56–9:3; Fig. 6, step 1302. Then, a trader can send a buy order or sell order to the market with a single action, such as clicking on the appropriate cell in column 1003 or 1004. *See id.* at 8:60–9:48; Fig. 6, steps 1306–1315.

E. Illustrative Claim

As noted above, Petitioner challenges claims 1–36. Claims 1 and 36 are independent, with claims 2–35 depending from claim 1. Claim 1 is representative, and is reproduced below:

> 1. A method for facilitating trade order entry, the method comprising:
>
> receiving, by a computing device, market data for a commodity, the market data comprising a current highest bid price and a current lowest ask price available for the commodity;
>
> identifying, by the computing device, a plurality of sequential price levels for the commodity based on the market data, where the plurality of sequential price levels includes the current highest bid price and the current lowest ask price;
>
> displaying, by the computing device, a plurality of graphical locations aligned along an axis, where each graphical location is configured to be selected by a single action of a user input device to send a trade order to the electronic exchange, where a price of the trade order is based on the selected graphical location;

> mapping, by the computing device, the plurality of sequential price levels to the plurality of graphical locations, where each graphical location corresponds to one of the plurality of sequential price levels, where each price level corresponds to at least one of the plurality of graphical locations, and where mapping of the plurality of sequential price levels does not change at a time when at least one of the current highest bid price and the current lowest ask price changes; and

> setting a price and sending the trade order to the electronic exchange in response to receiving by the computing device commands based on user actions consisting of:

> (l) placing a cursor associated with the user input device over a desired graphical location of the plurality of graphical locations and (2) selecting the desired graphical location through a single action of the user input device.

Ex. 1001, 11:39–12:5.

ANALYSIS

A. Claim Construction

In a covered business method patent review, claim terms are given their broadest reasonable interpretation in light of the specification in which they appear and the understanding of others skilled in the relevant art. *See* 37 C.F.R. § 42.300(b).

Applying that standard, we interpret the claim terms of the '374 patent according to their ordinary and customary meaning in the context of the patent's written description. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definitions for claim terms must be set forth with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). Petitioner proposes constructions for several terms (Pet. 24–27), and Patent Owner does not propose any explicit

claim construction. We determine that no term requires explicit construction in order to conduct properly our analysis of the asserted challenge.

B. Covered Business Method Patent

Section 18 of the AIA[1] provides for the creation of a transitional program for reviewing covered business method patents. 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." AIA § 18(d)(1); *see* 37 C.F.R. § 42.301(a). A patent need have only one claim directed to a covered business method to be eligible for review. *See Transitional Program for Covered Business Method Patents—Definitions of Covered Business Method Patent and Technological Invention*, 77 Fed. Reg. 48,734, 48,736 (Aug. 14, 2012) ("CBM Rules") (Comment 8).

Based on the record before us, we are apprised of no reason to change the determination in our Institution Decision that at least claim 1 of the '374 patent is directed to a covered business method. Inst. Dec. 11–16.

1. Data Processing or Other Operations used in a Financial Product or Service

Petitioner contends that "the '374 patent claims ***expressly require*** the performance of a financial transaction, e.g., by 'facilitating trade order entry' through steps including 'receiving market data for a commodity,' and 'setting a price and sending the trade order to the electronic exchange.'" Pet.

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[1] Leahy-Smith America Invents Act, Pub. L. No. 112–29, 125 Stat. 284, 329 (2011) ("AIA").

17 (citing claim 1 of the '374 patent). Based on this record, we agree with Petitioner that these activities are financial in nature.

Patent Owner does not dispute that the claims are directed to a financial product or service and, instead, contends that the claims are not directed to "data processing" or "other operations" of the financial product or service. PO Resp. 62–70. Patent Owner's contentions are unpersuasive.

Claim 1 encompasses processing financial data associated with a commodity and processing financial data for sending a trade order for a commodity to an exchange. *See* Ex. 1001, 4:60–64 ("The present invention processes this information and maps it . . . to a screen."); 10:52–54 ("[t]he process for placing trade orders using the Mercury display"). This processing of financial data is used in the practice, administration, or management of a commodity, which is a financial product, and in the practice, administration, or management of electronic trading with an exchange, which is a financial service or activity.

Even if there is some disagreement as to whether claim 1 includes "data processing," there appears to be no disagreement that at least the steps noted above are operations used in the practice, administration, or management of a commodity or trading a commodity on an electronic exchange. *See* PO Resp. 66–70 (discussing only whether the '374 patent claims "data processing"). The '374 patent, therefore, at least claims "other operations used in the practice, administration, or management of a financial product or financial service" (AIA § 18(d)(1)).

Patent Owner additionally contends that the Legislative History confirms that the claimed invention is not a covered business method. PO Resp. 74–77. We are not persuaded by Patent Owner's argument. The

language of the AIA, as passed, does not include an exemption for all user interfaces for trading commodities from covered business method patent review. *See Unwired Planet, LLC v. Google Inc.*, 841 F.3d 1376, 1381–82 (Fed. Cir. 2016) (extra-statutory sources are not persuasive when the plain words of the statute do not support such additional interpretive phrases). Each patent has to be evaluated individually to determine if it is eligible for a covered business method patent review. A determination of whether a patent is eligible for a covered business method patent review under the statute is made on a case-by-case basis on the facts of each case. 37 C.F.R. § 42.301(b).

For the reasons stated above, and based on the particular facts of this proceeding, we conclude that the '374 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

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).

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).

Both prongs must be satisfied in order for the patent to be excluded as a technological invention. *See Versata Dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1326–27 (Fed. Cir. 2015).

Petitioner contends that rather than reciting a technical feature that is novel or unobvious over the prior art, the claims of the '374 patent generally recite trading software that is implemented on a conventional computer. Pet. 19–22. Petitioner additionally asserts that the claims of the '374 patent do not fall within § 18(d)(1)'s exclusion for "technological inventions" because the '374 patent does not solve a technical problem using a technical solution. Pet. 22–24. Patent Owner disagrees (PO Resp. 71–74), but fails to explain how the *claimed* subject matter recites a technological feature that is novel and unobvious over the prior art or solves a technical problem using a technical solution.

We are persuaded by Petitioner's contentions that at least claim 1 of the '374 patent does not recite a novel and non-obvious technological feature. The specification of the '374 patent treats as well-known all potentially technological aspects of the claims. For example, the '374 patent discloses that its system can be implemented "on any existing or future terminal or device" (Ex. 1001, 4:4–7), each of which is known to include a display, and discloses that the input device can be a mouse (*id.* at 4:8–11),

which is a known input device. The '374 patent further discloses that "[t]he scope of the present invention is not limited by the type of terminal or device used." *Id.* at 4:7–8. The '374 patent explains that the programming associated with the GUI is insignificant. *See, e.g.*, Ex. 1001, 4:60–67 (explaining that the "present invention processes [price, order, and fill] information and maps it through simple algorithms and mapping tables to positions in a theoretical grid program" and "[t]he physical mapping of such information to a screen grid can be done by any technique known to those skilled in the art").

Petitioner notes that the '374 patent "purports to minimize the risk of the market price changing before the trade is executed, such that the trader 'misses the price.'" Pet. 22 (citing Ex. 1001, 2:57–59; 3:2–4). Petitioner argues that "contending with price fluctuations in a market is not a technological problem." *Id.* Petitioner contends that "the '374 patent does not offer a technical solution" because "[i]t does not claim a more accurate mouse or a computer that responds faster." *Id.* at 23.

We are persuaded that the '374 patent does not solve a technical problem with a technical solution. As written, claim 1 requires the use of only known technology. Moreover, we do not see how claim 1, for example, even solves the problem alleged by Patent Owner (i.e., missing an intended price). *See, e.g.,* Ex. 2169 ¶ 77. Given this, we determine that at least claim 1 does not solve a technical problem using a technical solution and at least claim 1 does not satisfy the second prong of 37 C.F.R. § 42.301(b).

3. Conclusion

In view of the foregoing, we conclude that the '374 patent is a covered business method patent under AIA § 18(d)(1) and is eligible for review using the transitional covered business method patent program.

C. Section 101 Patent-Eligible Subject Matter

Petitioner challenges claims 1–36 as directed to patent-ineligible subject matter under 35 U.S.C. § 101. Pet. 28–50. Patent Owner disagrees. PO Resp. 12–62.

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).

There is no dispute that claims 1–35 fit within one of the categories of patent-eligibility. Petitioner asserts, however, that "claim 36 of the '374 patent is invalid because it encompasses subject matter that does not fall into any of the four statutory classes of § 101." Pet. 48. Claim 36 recites a "computer readable medium having stored therein instructions." Petitioner contends that "the BRI of 'medium,' as used in claim 36 of the '374 patent . . . is broad enough to cover substances 'such as wires, air, or a vacuum' through which transitory electrical signals can propagate." Pet. 49 (citing *In re Nuijten*, 550 F.3d 1346, 1352 (Fed. Cir. 2007)); Pet. Reply 24.

Patent Owner responds that there is no evidence to support Petitioner's contention that one skilled in the art would have understood "computer readable medium having stored therein instructions" to encompass a signal at the time of the invention. PO Resp. 61–62. Petitioner

responds to Patent Owner's contentions by simply asserting that "the Board correctly found that the BRI of a 'computer readable medium' encompasses transitory media" and "[n]othing in the specification limits a broad application of this definition." Pet. Reply 24.

Petitioner's response is unhelpful. In our Institution Decision, we explicitly noted that our construction was preliminary and specifically indicated that "[t]he broadest reasonable interpretation, in light of the specification, of 'stored' is an issue that requires further development of the record." Inst. Dec. 9. In its Reply, Petitioner cites no evidence to rebut Patent Owner's contentions regarding how one skilled in the art would have understood the claim language at issue at the time of the invention. In fact, Petitioner does not even acknowledge those contentions. At oral hearing, when asked why no evidence was provided in this regard, Petitioner had no explanation other than "it would be difficult . . . because this is a term of art in the patent field" and "you can[not] go to an IEEE dictionary and find necessarily a dictionary definition that would be helpful here." Tr. 71:4–10.

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 having stored therein instructions" as encompassing transitory, propagating signals.

Nevertheless, we are persuaded that claims 1–36 do not recite patent-eligible subject matter for the reasons that follow.

1. Abstract Idea

Section 101 "contains an important implicit exception [to subject matter eligibility]: Laws of nature, natural phenomena, and abstract ideas

are not patentable." *Alice Corp. Pty. Ltd. v. CLS Bank. Int'l*, 134 S. Ct. 2347, 2354 (2014) (quoting *Assoc. for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013)). In *Alice*, the Supreme Court reiterated the framework set forth previously in *Mayo Collaborative Services v. Prometheus Labs., Inc.*, 566 U.S. 66, 70–71 (2012), "for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts." *Alice*, 134 S. Ct. at 2355. The first step in the analysis is to "determine whether the claims at issue are directed to one of those patent-ineligible concepts." *Id.*

Claim 1 is "[a] method for facilitating trade order entry" and recites "receiving . . . market data," "identifying . . . sequential price levels," "displaying . . . graphical locations along an axis," "mapping . . . the . . . sequential price levels to the . . . graphical locations," and "setting a price and sending the trade order."[2] In our Institution Decision, we specifically set forth our understanding of the limitations noted above, explaining that claim 1 "do[es] not require that the graphical locations *display* the price levels that are mapped to them, any other information, or even any indication as to which of those graphical locations correspond to bids and which correspond to asks." Inst. Dec. 10–11. We further explained that, based on our understanding of the claim language, the "claims provide [no] indication to a user of market information, such as price, order quantity, or order type" and "the graphical locations simply could be 'black boxes' with price values associated with them, and *no information provided to the user*

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[2] The following discussion addresses claim 1, with the understanding that the discussion applies equally to claim 36, which recites a computer readable medium having instructions to execute a method substantially the same as the method of claim 1.

indicating that price value, the order quantity, or the order type." *Id.* Patent Owner does not dispute our understanding of the claims, which, as noted above, was set forth explicitly in our Institution Decision.

"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) (citations omitted). 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, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1334 (Fed. Cir. 2016); *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"). As explained in our Institution Decision, "these claims are drafted at such a high level of abstraction that it is difficult to imagine the bounds of their application." Inst. Dec. 11.

Petitioner argues that the challenged claims "are directed to the abstract, fundamental economic practice of trading based on displayed market information and user input." Pet. 29. In our Institution Decision, we specifically indicated that "the concept embodied by the majority of the limitations appears to be even broader than that suggested by Petitioner," stating that independent claims 1 and 36 are directed to "the abstract idea of

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receiving user input and placing a trade order." Inst. Dec. 19. Patent Owner responds to our characterization of the claims by alleging, generally, and without meaningful explanation, that "the '374 patent does not simply claim its invention to be the concept of . . . 'receiving user input and placing a trade order,' the PTAB's purported abstract idea." PO Resp. 2 (citing Inst. Dec. 19); *see also id.* at 51 ("Nor are the claims directed to 'receiving user input and placing a trade order,' the PTAB's purported abstract idea." (citing Inst. Dec. 19)).

As noted above, claim 1 only minimally requires collecting and analyzing information and includes no requirement that any of that information is displayed. Even collecting, analyzing, and displaying information, by itself, however, does not remove claims from abstraction. *See, e.g., Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016). To the extent claim 1 requires a GUI, it does so in the most basic sense, only requiring generic graphical locations that are selectable by a user. Claims that require a GUI are not automatically patent eligible. *Affinity Labs*, 838 F.3d at 1255–56; *Apple, Inc., v. Ameranth, Inc.,* 842 F.3d 1229, 1234 (Fed. Cir. 2016). 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 only discusses, generally, patent eligibility requirements under § 101, without explaining how that discussion applies to the specific claim limitations of the '374 patent. *See, e.g.,* PO Resp. 1–17, 23–33. Patent Owner, instead, continually alleges that the claims are directed to a specific graphical user interface. *See, e.g.,* PO Resp. 1 ("The claims of the '374 patent are patent eligible because they are not directed to an "abstract idea," but are instead directed to the specific structure, makeup, and functionality of a technological graphical user interface ("GUI") tool that can be used for electronic order entry."), 10 ("TT's claims are directed to a specific implementation—that is, a specific GUI."), 12 ("[T]he '374 patent claims are patent eligible because they claim the construction of a specific GUI . . . ."), 23 ("TT's claims set forth a particular way to construct a specific GUI with specific structure, makeup, and functionality."), 27 ("The claims here are directed to constructing a GUI with a specific structure, makeup, and functionality that is both a specific means or method and a particular, practical implementation of an order entry interface.").

The only reference to specific claim limitations in the Patent Owner Response related to whether the claim 1 is directed to an abstract idea is a reproduction of the claim language (PO Resp. 18–22), followed by conclusory statements, such as "because of this structure, makeup, and functionality, the mapping of the plurality of sequential price levels does not change at a time when at least one of the current highest bid price and the current lowest ask price changes, providing the benefits described in the specification" (*id.* at 22). Patent Owner alleges that "[t]his specific combination of display elements and features differed from the conventional GUIs at the time of the invention and addressed a specific problem created

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by these conventional GUIs, namely, improving accuracy without sacrificing speed and improving usability." *Id.* at 28.

Although Patent Owner provides a table allegedly illustrating how claim 1 "is constructed to display and function," that characterization of the "structure, makeup, and functionality" of the claims is conclusory and inaccurate. PO Resp. 19–21 (citing Ex.1001, 11:39–12:5; Ex. 2168 ¶ 42). For example, Patent Owner contends that "[t]he structure of each graphical location is aligned along the ***price*** axis structure on the visual display" and "[e]ach graphical location functions such that it is selectable . . . to send a trade order . . . at the ***price*** aligned with the selected graphical location." *Id.* at 20 (emphasis added). The testimony from Mr. Gould Bear cited by Patent Owner is simply a reproduction of the table spanning pages 19–22 of the Patent Owner Response. Ex. 2168 ¶ 42. Claim 1, however, recites "an axis," not "a price axis," and does not require any display of price information or any other specific type of information.[3]

As for Patent Owner's arguments that we should follow the Federal Circuit's guidance in *CQG* (*See* PO Add'l Sub. 1–5), comparing the claims of the patents involved in *CQG* with those in the '374 patent is not particularly helpful here. Although the '374 patent shares a specification with the patents at issue in *CQG*, the claims at issue in the '374 patent are much broader. In its additional submission, Patent Owner contends that "the '374 patent claims are in some respects narrower than the claims of the '132 and '304 patents," which were at issue in *CQG*. PO Add'l Sub. 5. Patent

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[3] Patent Owner clearly knew how to claim a price axis, but chose not to limit the claims in that manner in the '374 patent. *See* Ex. 2111, 12:44 (earlier filed patent claiming a "price axis" in the same chain of continuation filings that resulted in the '374 patent).

Owner reproduces portions of claim 1 from the '374 patent that recite the features of "setting a price and sending the trade order to the electronic exchange" in that claim. *Id.* Patent Owner offers no explanation, however, as to how that claim language makes claim 1 of the '374 patent narrower, in a meaningful way, than what is recited in the '132 or '304 patent claims. The '304 patent, for example, recites a similar limitation ("setting a plurality of parameters for a trade order . . . and sending the trade order to the electronic exchange") as well as numerous other limitations not found in claim 1 of the '374 patent.

Accordingly, comparing the claims at issue in this proceeding with those addressed in *CQG* is not particularly helpful here, particularly when the court implied that even those narrower claims of the '132 and '304 patents are on the line between patent eligibility and ineligibility (*see CQG*, 2017 WL 192716, at *4 (noting the "close question[] of eligibility")).

As explained above, claim 1 is simply directed to receiving user input to send a trade order. There is no dispute that receiving user input and placing a trade order, a fundamental economic practice, is an abstract idea.

2. Inventive Concept

Next we turn to "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." *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 566 U.S. at 78–79). The additional elements must be more than "well-understood, routine, conventional activity." *Id.* at 1298. On this record, we are persuaded that the challenged claims of the '374 patent do not add an inventive concept sufficient to ensure

that the patent in practice amounts to significantly more than a patent on the abstract idea itself. *See* Pet. 33–44.

As noted above, the specification of the '374 patent treats as well-known all potentially technological aspects of the claims. For example, the '374 patent discloses that its system can be implemented "on any existing or future terminal or device" (Ex. 1001, 4:4–7), each of which is known to include a display, and discloses that the input device can be a mouse (*id.* at 4:8–11), which is a known input device. The '374 patent further discloses that "[t]he scope of the present invention is not limited by the type of terminal or device used." *Id.* at 4:7–8. The '374 patent also describes the programming associated with the GUI as insignificant. *See, e.g.*, *id.* at 4:60–67 (explaining that "present invention processes [price, order, and fill] information and maps it through simple algorithms and mapping tables to positions in a theoretical grid program" and "[t]he physical mapping of such information to a screen grid can be done by any technique known to those skilled in the art").

Patent Owner acknowledges that "prior art GUIs provided the ability to enter and send order messages to an electronic exchange using . . . order entry screens," and specifically references the Figure 2 "conventional GUI tool" described in the '374 patent. PO Resp. 13. Patent Owner does not appear to contend that anything in the claim is unconventional other than, perhaps, that the "mapping of the plurality of sequential price levels does not change at a time when at least one of the current highest bid price and the current lowest ask price changes."[4] *See, e.g.*, Ex. 2169 ¶¶ 43–69. That,

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[4] Patent Owner explicitly acknowledges that the combination of other features recited in the claim are conventional in related proceedings

however, does not add an inventive concept, as it simply maintains the previous association between a given graphical location and its price level. That limitation simply requires that nothing changes, other than the data that is received.

Patent Owner argues, however, that "[t]he claims recite an inventive concept (and thus pass prong II under *Alice*) at least because they are an unconventional and revolutionary combination of features" and "the claimed GUI tool is constructed to provide the claimed structure, function, and makeup for displaying, mapping, and order entry." PO Resp. 34. Again, we note that Patent Owner's arguments do not address the elements recited *in the claim.* Patent Owner discusses *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014), for example, but offers no specific explanation as to how the claims of the '374 patent are like those that were at issue in that case. PO Resp. 38–41. Unlike claim 1 of the '374 patent, the court in *DDR Holdings* determined those claims were not directed to "a fundamental economic or longstanding commercial practice" or "an invention that is . . . merely the routine or conventional use of the Internet." *DDR Holdings*, 773 F.3d at 1257, 1259. Rather, the claims in *DDR Holdings* were characterized as providing "a result that overrides the routine and conventional sequence of events ordinarily triggered by the click of a

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addressing patents in the same family of continuation filings that resulted in the '374 patent. For example, when discussing the Figure 2 "conventional GUI tool" referenced in the '374 patent, Patent Owner acknowledged that "these types of tools permitted 'single action' order entry that consisted of a trader presetting a default quantity and then clicking on a cell in the screen (i.e., pressing a button on the tool) to cause a trade order message to be sent to the exchange at the preset quantity and at the price value associated with that cell." CBM2014-00136, Paper 18, 7.

hyperlink." *Id.* at 1258. As explained above, we see nothing other than routine and conventional features in claim 1.

Patent Owner fails to identify, and we are not apprised of, an inventive concept in the claims. Patent Owner does not allege that a specific claim limitation, or combination of limitations, provides an inventive concept. As explained above, we are persuaded that the claim does not include elements that "transform the nature of the claim" into a "patent-eligible application."

Given the above, we determine that the combination of elements of the claim does not transform the nature of the claim into a patent-eligible application of the abstract idea. They do not add significantly more to the abstract idea.

3. Dependent Claims

Petitioner contends that the additional elements recited by dependent claims 2–35 do not add significantly more to the abstract idea so as to render the claims patent-eligible. Pet. 39–44. Based on our review of the record before us, we are persuaded by Petitioner's contentions regarding claims 2–35. Those claims further define, for example, the information mapped to the graphical locations (claims 2–11), the orientation of the graphical locations on the screen (claims 12, 33, and 34), displaying additional information (claims 13–18), and features associated with receiving and executing the user's command (claims 19, 20, 23–27, and 35). Nothing in those claims removes them from abstraction or provides an inventive concept sufficient to save the claims from ineligibility.

Patent Owner addresses only claims 13–15 specifically, noting that "dependent claims 13–15 recite, inter alia, a first indicator and second

indicator that move relative to the graphical locations" and "[t]his relative movement provided a significant unexpected improvement over the preexisting technology." PO Resp. 29. Patent Owner fails to offer any persuasive explanation, however, as to why displaying this additional information makes the claims any less abstract or provides an inventive concept sufficient to save the claims from ineligibility.

4. Conclusion

Having considered the record before us, we are persuaded that Petitioner has shown sufficiently that claims 1–36 of the '374 patent are not directed to patent eligible subject matter under 35 U.S.C. § 101.

D. Motions to Exclude Evidence

Petitioner moves to exclude Exhibits 2211, 2220, 2222, 2287, and 2292–2296 (the *eSpeed/CQG* Transcripts); Exhibit 2223 (the Electronic Trader Declarants Exhibit); Exhibit 2214 (Animation); Exhibit 2169 ¶¶ 71, 79, 80, 83–86, 92–95, and 100–102 (Confidential Declaration of Christopher Thomas); and Exhibits 2206, 2207, 2415, 2416, 2250, and 2279–2282 (Documents from District Court Cases). Paper 31, 2–10. Patent Owner moves to exclude Exhibit 1003 (TSE) and Exhibit 1009 (the transcript of Mr. Kawashima's testimony). Paper 34, 1.

Petitioner's Motion to Exclude Evidence and Patent Owner's Motion to Exclude Evidence are dismissed because we do not rely on the Exhibits or portions of the Exhibits addressed by those motions in reaching our Decision.

ORDER

For the reasons given, it is:

ORDERED that claims 1–36 of the '374 patent are unpatentable;

FURTHER ORDERED that Petitioner's Motion to Exclude Evidence is *dismissed*;

FURTHER ORDERED that Patent Owner's Motion to Exclude Evidence 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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Appendix

C

UNITED STATES PATENT AND TRADEMARK OFFICE
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BEFORE THE PATENT TRIAL AND APPEAL BOARD
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IBG LLC, INTERACTIVE BROKERS LLC,
TRADESTATION GROUP, INC., TRADESTATION SECURITIES, INC.,
TRADESTATION TECHNOLOGIES, INC., and IBFX, INC.,
Petitioner,

v.

TRADING TECHNOLOGIES INTERNATIONAL, INC.,
Patent Owner.
_____

CBM 2015-00179
Patent 7,533,056 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., TradeStation Securities, Inc., TradeStation Technologies, Inc., and IBFX, Inc. (collectively, "Petitioner") filed a Petition requesting a covered business method patent review of claims 1–15 of U.S. Patent No. 7,533,056 B2 (Ex. 1001, "the '056 patent"). Paper 9 ("Pet.").[1] In response, Trading Technologies International, Inc. ("Patent Owner") filed a Patent Owner Preliminary Response. Paper 21 ("Prelim. Resp."). Upon consideration of the Petition and Preliminary Response, we instituted trial as to claims 1–15 of the '056 patent. Paper 23 ("Dec.").

Subsequent to institution, Patent Owner filed a Corrected Patent Owner Response (Paper 81 ("PO Resp.")) and Petitioner filed a Reply (Paper 110 ("Pet. Reply")). Petitioner filed a Motion to Exclude (Paper 116 ("Pet. Mot. to Exclude")) Exhibits 2300, 2301, 2304–2316, 2318–2324, 2326–2330, 2030, and 2032. Patent Owner filed an Opposition to the Motion to Exclude (Paper 117 ("PO Exclude Opp.")), and Petitioner filed a Reply (Paper 120 ("Pet. Exclude Reply")).

Patent Owner filed a Motion to Exclude (Paper 114 ("PO Mot. to Exclude")) Exhibits 1003, 1007, and portions of Exhibits 1059 and 1060. Petitioner filed an Opposition to the Motion to Exclude (Paper 118 ("Pet. Exclude Opp.")), and Patent Owner filed a Reply (Paper 121 ("PO Exclude Reply")).

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[1] CQG, Inc. and CQGT, LLC, originally part of "Petitioner," settled with Patent Owner. The proceeding was terminated with respect to CQG, Inc. and CQGT, LLC. Paper 27.

An oral hearing was held on October 19, 2016, and a transcript of the hearing is included in the record (Paper 134 ("Tr.")).[2]

For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–15 of the '056 patent are unpatentable.

A. Related Matters

The '056 patent is involved in the following lawsuit: *TT v. BGC Partners, Inc.,* et al., No. 1:10-cv-00715 (N.D. Ill.). Pet. 3. In compliance with 37 C.F.R. § 42.302(a), Petitioner certifies that it has been sued for infringement of the '056 patent. *Id.* Patent Owner does not challenge Petitioner's certification that it has been sued for infringement of the '056 patent.

B. The '056 Patent

The Specification of the '056 patent describes a user interface 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, 2:8–26.

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[2] After oral hearing, the Federal Circuit issued a decision, *Trading Technologies International, Inc.*, v. *CQG, INC.,* No. 2016-1616, 2017 WL 192716 (Fed. Cir. Jan. 18, 2017), determining that the subject matter claimed in two other tangentially related patents to the '056 patent are patent-eligible under § 101. Petitioner and Patent Owner, with authorization (Paper 137), each filed supplemental briefing addressing the impact of that decision on this proceeding. Paper 138 ("PO Br."); Paper 140 ("Pet. Br.").

C. Illustrative Claim

Claim 1 of the '056 patent is the only independent claim:

1.   A method of operation used by a computer for displaying transactional information and facilitating trading in a system where orders comprise a bid type or an offer type, the method comprising:

>   receiving bid and offer information for a product from an electronic exchange, the bid and offer information indicating a plurality of bid orders and a plurality of offer orders for the product;

>   displaying a plurality of bid indicators representing quantity associated with the plurality of bid orders, the plurality of bid indicators being displayed at locations corresponding to prices of the plurality of bid orders along a price axis;

>   displaying a plurality of offer indicators representing quantity associated with the plurality of offer orders, the plurality of offer indicators being displayed at locations corresponding to prices of the plurality of offer orders along the price axis;

>   receiving a user input indicating a default quantity to be used to determine a quantity for each of a plurality of orders to be placed by the user at one or more price levels;

>   receiving a user input indicating a desired price for an order to be placed by the user, the desired price being specified by selection of one of a plurality of locations corresponding to price levels along the price axis; and

>   sending the order for the default quantity at the desired price to the electronic exchange.

D. Grounds of Unpatentability

We instituted review of claims 1–15 on the following grounds:

References	Basis	Challenged Claims
n/a	§ 101	1–15
TSE[3], Togher[4], Schott[5], and Cooper[6]	§ 103	1–15
Silverman[7], Togher, Cooper, and Hogan[8]	§ 103	1–15

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

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[3]TOKYO STOCK EXCHANGE OPERATION SYSTEM DIVISION, FUTURES/OPTION PURCHASING SYSTEM TRADING TERMINAL OPERATION GUIDE (1998) (Ex. 1004) ("TSE").
[4] U.S. Patent No. 5,375,055, issued Dec. 20, 1994 (Ex. 1008) ("Togher").
[5] U.S. Patent No. 5,619,631, issued Apr. 8, 1997 (Ex. 1009) ("Schott").
[6]Alan Cooper, ABOUT FACE: THE ESSENTIALS OF USER INTERFACE DESIGN, First Edition (1995) (Ex. 1015) ("Cooper").
[7] U.S. Patent No. 5,136,501, issued Aug. 4, 1992 (Ex. 1010) ("Silverman").
[8] U.S. Patent No. 5,414,809, issued May 9, 1995 (Ex. 1011) ("Hogan").

determining whether a patent is eligible for a covered business method patent review, the focus is on the claims. A patent need have only one claim directed to a covered business method to be eligible for review.

1. *Financial Product or Service*

Petitioner argues that the '056 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. 4–5. In particular, Petitioner argues that claim 1 requires receiving bid and offer information of a product from an electronic exchange, displaying the bid and offer information to a user, receiving a user input indicating a default quantity and price for an order(s), and sending the order(s) to an electronic exchange. *Id.* Petitioner asserts that each of these activities are inherently financial in nature, such as receiving bid and offer information and displaying it to a trader. Displaying market information, Petitioner asserts, is a financial activity. *Id.* Receiving trader inputs for a trade and sending a trade order to an exchange, Petitioner asserts, involves trading on an exchange, a financial activity. *Id.* (citing Ex. 1044, 324–325).

Notwithstanding Patent Owner's arguments, which we address below, we are persuaded by Petitioner's showing, which we adopt as our own, that the '056 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 claim 1 is directed to a method for displaying (e.g., "other operations") market information to a trader, which is a financial activity. Petitioner further

asserts, and we agree, that claim 1 also is directed to receiving trader inputs

for a trade and sending a trade order to an exchange (e.g., trading on an

exchange, which also lies under the "other operations" prong of CBM),

which is a financial activity.

Patent Owner argues that neither the Petitioner nor this panel has

proposed any definition of the CBM "data processing," and that the claims of

the '056 patent are directed to a specific GUI tool, and not directed to data

processing. PO Resp. 33. Patent Owner's argument is misplaced because 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 . . . ." *See, e.g.*, 37 C.F.R. § 42.301(a), (emphasis added).

It is clear to us that Petitioner relies on the "other operations" part of the

definition to make its case. This is exemplified in showing that it is the

displaying and trading on an exchange elements of claim 1 that Petitioner

relies on as showing "other operations" which are used in the practice of a

financial service (trading on an exchange). Patent Owner does not rebut this

showing.

In any event, we are not persuaded by Patent Owner's argument that

the claims are directed to a specific GUI tool that displays information on a

computer in a specified manner, but not concerned with processing the

information that is displayed. PO Resp. 33–34 (citing Ex. 2168 ¶¶ 25–28).

Claim 1 is directed to "[a] method of operation used by a computer for

displaying transactional information and facilitating trading in a system."

Patent Owner has not explained why a method of operation used by a

computer does not include data processing. Rather, the argument, and the testimony to which we are directed (*e.g.*, Ex. 2168 ¶¶ 25–28) are not commensurate in scope with the claims. Indeed, neither Patent Owner nor Eric Gould-Bear account for or discuss the specific claim language. For all of these reasons, we are not persuaded by Patent Owner's arguments. We determine that Petitioner has shown sufficiently that claim 1 claims a method for performing data processing or other operations used in the practice, administration, or management of a financial product or service.

2. *Exclusion for Technological Inventions*

As indicated above, 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). Petitioner asserts that the '056 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. 5–9. In particular, Petitioner argues that the claims recite trading software that is implemented using conventional computer hardware, servers, and networks, directing attention to a description in the '056 patent that generically refers to "personal computers, terminals as part of a network, or any other computing device" and no specific hardware to carry out the invention. *Id.* at 6–7 (citing Ex. 1001, 4:34–36). Petitioner also argues that electronic trading was well known as of the filing date. *Id.* (citing Ex. 1006, 1).

Notwithstanding Patent Owner's arguments, which we address below, we are persuaded by Petitioner's showing, which we adopt as our own, that the claimed subject matter as a whole does not recite a technological feature that is novel and unobvious over the prior art. We agree with Petitioner that claim 1 is directed to well-understood, routine, and conventional steps of receiving market information and displaying it graphically to a trader, who uses the information to facilitate trading a commodity. *Id.*

For example, the "BACKGROUND OF THE INVENTION" section of the '056 patent explains that it was well known for an 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, 1:37–41. There is no indication in the '056 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, and the '056 patent does not claim any improvement of a computing device.

Patent Owner argues that the '056 patent is for a technological invention because the claims, previously allowed by the Office, are directed to a novel and nonobvious GUI tool. PO Resp. 29–30. Patent Owner argues that it is irrelevant that the claimed invention can be implemented on a conventional computer and that use of known technologies does not render claims non-technical. *Id.* at 29–30, 31–32. Rather the inquiry, Patent Owner argues, relates to the claimed software solution (e.g., an improved GUI tool),

which here is "technology that improves, even transforms, the computer so it performs functions it previously could not." *Id.* at 29–30. Patent Owner argues that Petitioner ignores the claimed GUI improvement. *Id.*

We disagree with Patent Owner that Petitioner ignored the claimed GUI improvement. Petitioner need not have addressed what is not present in the claims. As explained above, claim 1 is directed to gathering market information, displaying it to a trader, and the trader using the information to facilitate trading a commodity, features that were well known at the time of the invention. Moreover, there is no specific computer, program, or processing described in the '056 patent beyond what was known in the art at the time of the invention. Conversely, Patent Owner does not explain how broad claim 1 recites a GUI improvement. Our reviewing court has held that "the presence of a general purpose computer to facilitate operations through uninventive steps" does not render a claim a technological invention within the meaning of the statute. *See Versata dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1327 (Fed. Cir. 2015); *SightSound Techs., LLC v. Apple Inc.*, 809 F.3d 1307, 1315 (Fed. Cir. 2015). So it is here.

Petitioner also argues that the claimed subject matter does not solve a technical problem using a technical solution, because the problem is a financial one and the solution is to rearrange available market data on a display. Pet. 8–9. Notwithstanding Patent Owner's arguments, which we address below, we are persuaded by Petitioner's showing, which we adopt as our own, that the problem noted in the Specification of the '056 patent is not a technical one and no technical solution is used. The '056 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, 2:19–26. However, informing a trader of certain stock market trends or events is more of a financial problem than a technical problem to which there is not a technical solution.

Patent Owner argues that the problem solved was with existing computer-trader interfaces, which is a technical problem. PO Resp. 31. Patent Owner argues that the claims recite a new GUI design addressing the problem with the old GUI design and that the claimed GUI improvement necessarily claims a technical solution to a technological problem. *Id.* We are not persuaded by Patent Owner's arguments that the claims are directed to solving a technical problem using a technical solution because Patent Owner's arguments are not commensurate in scope to the breadth of the claims.

For all of the foregoing reasons, the subject matter of at least claim 1 is not a "technological invention" under 37 C.F.R. § 42.301(b), and the '056 patent is eligible for a covered business method patent review.

II. ANALYSIS

A. Claim Construction

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); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142–46 (2016). Under the broadest reasonable interpretation, claim terms are generally 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). Any special definition for a claim term must be set forth with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). Only terms which are in controversy need to be construed, and only to the extent necessary to resolve the controversy. *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

Petitioner proposes constructions for "(offer and bid) indicators representing quantity" and "indicators, icons, and tokens." Pet. 15–16, 18–20. In our Decision to Institute, we determined that Petitioner's proposed interpretations for these terms were consistent with the broadest reasonable construction, and, therefore, adopted Petitioner's proposed interpretations. Dec. 11. Neither party has indicated that our interpretations were improper and we do not perceive any reason or evidence that now compels any deviation from our initial determinations. Accordingly, the following constructions apply to this Decision:

Claim Term	Construction
(offer and bid) indicators representing quantity	includes alphanumeric and graphical indicators
indicators, icons, and tokens	a symbol such as an alphanumeric character or a graphic representation of an item

For purposes of this decision, we find it necessary to construe "price axis" (claim 1) and "order icon indicating the user's order" (claim 5).

Price Axis

Claim 1 recites a price axis in several instances. For example, claim 1 recites bid and offer indicators being displayed along a price axis. Ex. 1001, 14:1–10. Petitioner proposes that "price axis" be interpreted to mean "a reference line for plotting prices, including labeled, unlabeled, visible and invisible reference lines." Pet. 14–15. Patent Owner does not disagree with Petitioner's proposed interpretation. Rather, Patent Owner argues that Petitioner's proposed interpretation requires clarification "that a price axis cannot be a mere ordered list of prices that omits prices when there are no orders at that price." PO Resp. 5.[9]

Patent Owner urges a "clarification" to Petitioner's proposed interpretation that would require a price axis to include intervening price levels even when there are no bids/asks at those price levels. PO Resp. 4–7. This clarification, Patent Owner argues, is supported by the Specification of the '056 patent and the prosecution history. *Id.* For the following reasons, we are not persuaded that Patent Owner's proposed "clarification" to Petitioner's proposed interpretation results in the broadest reasonable interpretation of the term "price axis."

We begin with the words of claim 1. Claim 1 recites a price axis, but does not otherwise further expand on what constitutes a price axis. At the

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[9] In our Decision to Institute, and upon taking into consideration the parties' arguments and supporting evidence, we interpreted "price axis" to mean "a reference line for plotting prices, including labeled, unlabeled, visible and invisible reference lines." Dec. 11. Petitioner agrees with that interpretation, while Patent Owner seeks to clarify the interpretation. Pet. Reply 11–12; PO Resp. 4–7.

outset, it appears to us that Patent Owner does not dispute that a price axis is a reference line for plotting prices, including labeled, unlabeled, visible and invisible reference lines. PO Resp. 7, n.1. We agree with Petitioner and Patent Owner that the broadest reasonable interpretation of "price axis" is a reference line for plotting prices, including labeled, unlabeled, visible and invisible reference lines for the reasons discussed in the Petition and supported by record evidence. Pet. 14–15; Ex. 1032 ¶ 71; Ex. 1016, 123–137. Patent Owner, however, would additionally add that a list of prices that do not contain gaps in between prices is not a price axis. *Id.* at 5. In support of its contentions, Patent Owner argues that the vertical axis (the "value axis") seen in Figures 3A, 3B, 3C, and 4 of the '056 patent describes that when there are no orders at a particular value or price, the value or price level remains displayed. *Id.* at 5–6 (citing Ex. 2169 ¶¶ 37–43).

We do not agree with Patent Owner that the term "price axis" requires reading into the claim the additional "clarification" that a list of prices that do not contain gaps in between prices is not a price axis. There is nothing in the claim language itself that describes gaps or how data is arranged along the price axis or what contains a price axis. The passages and figures of the '056 patent that Patent Owner (and Mr. Thomas) directs attention to are examples or embodiments of what is claimed, and do not indicate that Patent Owner disclaimed or limited price axis to consist of a list of prices that contains gaps in between prices. Moreover, Mr. Thomas' illustration of what constitutes a price axis is conclusory and not supported by record evidence. Ex. 2169 ¶¶ 41–42. He has not directed attention to any evidence in support of his testimony as to what does and does not constitute a price axis as illustrated in

paragraph 41 of his declaration. As pointed out by Petitioner, an axis may be represented by scale breaks or logarithmic scales, and thus, need not retain an order of gaps as Patent Owner and Mr. Thomas contend. Pet. Reply 11–12; Ex. 1058, 103–109.

We also have considered Patent Owner's arguments and evidence that remarks made by the then applicant during prosecution of the application that matured into the '056 patent amount to an express and clear disclaimer of the meaning for price axis. PO Resp. 6–7 (citing Ex. 1002, 178–179; Ex. 2169 ¶ 39). We are not persuaded by such arguments because the comments made during prosecution have not been shown to amount to a disclaimer of having a price axis without gaps in between prices. For example, Patent Owner directs attention to page 178 of Exhibit 1002 from the prosecution file in support of its disclaimer argument. On that page, however, is quoted language from several lines of the claim with an argument just prior stating that Silverman does not describe an axis of prices and all that is contained in the quoted language. Patent Owner has not explained sufficiently why we should construe such general remarks as a disclaimer. We also have reviewed the remarks made by the then applicant that the applied prior art displayed prices for which orders exist, but do not agree that Patent Owner has shown why such comments amount to a clear disclaimer or disavowal of the scope of the term "price axis." To disavow claim scope, "the specification or prosecution history [must] make clear that the invention does not include a particular feature." *GE Lighting Sols., LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014) (internal citation, quotation, and alterations omitted).

For all of these reasons, we are not persuaded by Patent Owner's arguments regarding the claimed price axis. Based on the record before us, the broadest reasonable interpretation in light of the specification of a "price axis" is a reference line for plotting prices, including labeled, unlabeled, visible and invisible reference lines.

Order Icon Indicating the User's Order

Claim 5 depends directly from claim 1 and recites "displaying an order icon at a location that corresponds to the desired price level along the price axis, the *order icon indicating the user's order at the electronic exchange.*" (Emphasis added). Patent Owner argues that an "order icon indicating the user's order at the electronic exchange" should be interpreted to mean "an icon indicating to the user that the user has an order at a particular level along the price axis, distinct from other orders at the same level." PO Resp. 9. Petitioner argues that no construction of the phrase is necessary and that Patent Owner's construction is inconsistent with Figure 3A, which shows the user's order aggregated with other users. Pet. Reply 12. Petitioner further argues that any icon that indicates a user's order, whether aggregated with other orders or separate, meets the claim term. *Id.*

We agree with Petitioner. There is nothing in the language of claim 5 that requires indicating the *specific* user order (separating it out from all other orders) or indicating to the user that it is his order. If an order is placed by a user, resulting in the total quantity of orders placed at that same price to increase, the total number would indicate an increase, and thus, indicate the user's order. Patent Owner argues that because claim 1 recites bid indicators and offer indicators, an order icon must represent something distinct from the

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bid/offer indicators. PO Resp. 7–8. But even Patent Owner does not explain why an order icon cannot be one of the offer or bid indicators. Indeed, for the embodiment that Patent Owner directs attention to there is no distinction between offer and bid indicators with order icons (an order icon is one of the indicators). *Id.* We agree with Petitioner that a person of ordinary skill in the art would have understood the '056 patent to use "icons" and "indicators" interchangeably. *See, e.g.*, Pet. 18–20. Thus, we disagree with Patent Owner that the "order icon" of claim 5 cannot be one of the offer or bid indicators.

For all of the above reasons, we decline to interpret an "order icon indicating the user's order at the electronic exchange" to mean "an icon indicating to the user that the user has an order at a particular level along the price axis, distinct from other orders at the same level."

B. The Level of Ordinary Skill in the Art

Notwithstanding the parties' submissions of the level of ordinary skill in the art[10], 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).

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[10] The parties' submissions focus primarily on the degrees, occupations, and experience, as opposed to what the hypothetical person of ordinary skill in the art would have known at the time of the invention. As such, and as the triers of fact, based on the record before us, we do not find such information particularly helpful.

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

Petitioner contends that claims 1–15 of the '056 patent are unpatentable under 35 U.S.C. § 101. Pet. 24–38. Patent Owner opposes. PO Resp. 11–28.

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).

1.   *Abstract Idea*

Petitioner argues that claim 1 encompasses the abstract idea of graphing (or displaying) bids and offers to assist a trader to make an order,

which is a fundamental economic practice. Pet. 27. Petitioner further argues

that "[n]ot only is the abstract concept a fundamental economic practice, but

it is an abstract idea of itself because it can be performed using pen and

paper, or even in a trader's mind." *Id.* (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. 1032 ¶¶ 91, 205; Ex.

1010, Silverman at FIG. 4 (prior-art plot of same); Ex. 1029, 44–46 (showing

a page in a specialist's book that plots bids and asks along a price axis)). In

further support of Petitioner's arguments that the claims are directed to an

abstract idea because it can be performed in a trader's mind, Petitioner directs

attention to a description in the background of the invention section of the

'056 patent stating that "the successful trader anticipates the rise or fall of the

value of an item and performs his or her own transaction before the rest of

the market is aware of the item's potential gain or loss in value." Ex. 1001,

1:28–33.

Petitioner further argues that the abstract idea analysis does not change

merely because the claims include details such as displaying bid and offer

indicators at locations corresponding to prices of bid and offer orders along

the price axis, because those limitations are equally abstract ideas or are

irrelevant because they merely provide a degree of particularity. *Id.* at 28

(citing *Ultramercial*, 772 F.3d at 715 (an abstract idea is not concrete merely

because the claims include a degree of particularity.)). Lastly, Petitioner

argues that the claims do not solve any technological problem but rather are

directed to solving a business problem, i.e., anticipating market movement by

providing a graphical representation of what a trader has done in his mind since trading began. *Id.* at 29 (citing Ex. 1001, 1:56–60).

"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, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1334 (Fed. Cir. 2016); *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").

Notwithstanding Patent Owner's arguments, which we address below, we determine that Petitioner has shown[11] that claim 1 is directed to the

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[11] 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 the evidence. 35 U.S.C. § 326(e).

abstract idea of graphing (or displaying) bids and offers to assist a trader to make an order, which is a fundamental economic practice.

Claim 1, the sole independent claim, recites in the preamble a method for displaying transactional information and facilitating trading in a system. The method steps include receiving bid and offer information of a product from an electronic exchange, displaying the bid and offer information, receiving a user input indicating a default quantity and price for an order, and sending the order to the electronic exchange. In essence, all that claim 1 requires was well known in the prior art many years before the claimed invention. We agree with Petitioner that claim 1 encompasses the abstract idea of graphing (or displaying) bids and offers to assist a trader to make an order, steps that can be performed using pen and paper, or even in a trader's mind. Pet. 27–28 (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. 1032 ¶¶ 91, 205; Ex. 1010, Silverman at FIG. 4 (prior-art plot of same); Ex. 1029, 44–46 (showing a page in a specialist's book that plots bids and asks along a price axis); Ex. 1001, 1:28–33. We further agree with Petitioner that the '056 patent claims simply provide a graphical representation on a computer of what traders have done in their minds since trading began. Pet. 29. Such a system also was well known in the art at the time of the claimed invention. *See, e.g.*, Ex. 1010 (Silverman); *see also infra,* determining that Silverman in combination with other references render obvious the challenged claims.

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.[12] 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
Holdings,* 773 F.3d at 1257. The court also determined that the invention
was "necessarily rooted in computer technology in order to overcome a

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[12] The claims and specification before us are much broader than the patent
specifications and claims involved in *Trading Technologies International,
Inc.*, v. *CQG, INC., CQG, LLC, FKA CQGT, LLC*, No. 2016-1616, 2017 WL
192716 (Fed. Cir. Jan. 18, 2017), where the court implied that even those
narrower claims are on the line between patent eligibility and ineligibility
(*see id.* at *4 (noting the "close question[] of eligibility")). The Specification
of the '056 patent is different, and does not claim priority to the applications
that matured into the patents involved in that decision. Thus, comparing the
claims of the patents involved in *Trading Technologies* is not particularly
helpful here, because the claims here are nothing more than "displaying, and
selecting data or information that is visible on the [graphical user interface]
device." *Trading Technologies*, 2017 WL 192716 at *2.

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 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. PO Resp. 11–21. Patent Owner argues that Petitioner oversimplifies the claims and ignores the structure and functionality recited in the claims, such as the "bid indicators being displayed at locations corresponding to prices of the plurality of bid orders" and the "offer indicators being displayed at locations corresponding to prices of the plurality of offer orders along the price axis," elements that Patent Owner deems to be "GUI elements." *Id*. at 11–12. Here, bid and offer indicators are broad terms, whereby an indicator can simply be an alphanumeric symbol. Moreover, none of the claims recite a "GUI" or graphical user interface. Arguably, the only claim 1 step that would be in the realm of requiring a GUI, would be the step of "receiving a user input indicating a desired price … the desired price being specified by *selection of one of a plurality of locations* corresponding to price levels along the price axis." (Emphasis

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added). We disagree that Petitioner has oversimplified the claims and
ignores the structure and functionality recited in the claims. Petitioner's
arguments are commensurate in scope with the breadth of the claims.

Nor are we persuaded by Patent Owner's arguments that the claimed
GUI improves the computer because it allows the computer to be used in new
and inventive ways. PO Resp. 13–16. Patent Owner's arguments are general
and not specific to the claim language before us. In any event, 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, Inc., v. Ameranth, Inc.*,
842 F.3d 1229, 1234 (Fed. Cir. 2016). 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 argues that the claims are not to an abstract idea because they are not directed to a fundamental idea, longstanding commercial practice, a business method, or a generic GUI. PO Resp. 16–20. Patent Owner argues that in contrast to many other cited cases, the claims here are directed to the specific structure, make-up, and functionality of a particular GUI. *Id.* But the only specific feature that Patent Owner discusses is the claimed price axis and even then Patent Owner fails to explain why the recitation of a price axis takes the claim out of abstractness. A price axis is nothing more than a reference line for plotting prices. It can include labeled, unlabeled, visible, and invisible reference lines. There is nothing apparently special about an axis, even a price axis, and Patent Owner has failed to explain sufficiently why a price axis removes the abstractness from the claims. This is true even if Patent Owner's narrow proposed "clarification" were adopted.

We have considered Patent Owner's arguments regarding dependent claims 5–7, and why those claims "recite even more structure and function of the specific GUI tool and are even less directed to any abstract idea." PO Resp. 20–21. Patent Owner's arguments are premised on a narrow construction of claim 5 requiring "an additional indicator beyond the bid/offer indicators to indicate to a user something about that user's own order." *Id.* at 20. For reasons provided above, we decline to adopt Patent Owner's narrow construction. In any event, and even assuming the narrow construction is the correct construction, Patent Owner has not shown how a

an indicator indicating to a user something about that user's own order makes claims 5–7 less abstract. Lastly, we disagree with Patent Owner that Petitioner did not address sufficiently the dependent claims in the Petition. Petitioner addressed all of the dependent claims. *See, e.g.*, Pet. 37–38.

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." *Mayo*, 132 S. Ct. at 1298.

Petitioner argues that the claim 1 steps of receiving bid and offer information, receiving an order including a default quantity and a selected price, and sending the order to an exchange to be executed were well-understood, routine, and conventional activity that adds nothing significant to the abstract idea. *Id.* 30–31. Petitioner further argues that the claims are not rooted in computer technology because they do not overcome a problem specifically arising in the realm of computers or computer networks. *Id.* at 33 (citing *DDR Holdings*, 773 F.3d at 1257). Petitioner argues that the '056 patent specification admits that the problem was business, financial or trader-related, and not arising in computers or otherwise dependent upon computer components, and to the extent that a computer is used it is used only for its basic function such as displaying data and accepting user inputs. *Id.* at 34–35; Ex. 1032 ¶ 205.

Lastly, Petitioner argues that dependent claims 2–15 add only well-understood, routine, conventional post-solution activity to the abstract idea of claim 1, such as displaying a sent order (claim 5), displaying bids, offers, and an order with different characteristics (claim 6), and displaying the quantity of an order (claim 7). PO Resp. 37–38.

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 dependent claims 2–15 transforms the nature of the claims into a patent-eligible application. Claim 1 recites "a method of operation used by a computer for displaying transactional information and facilitating trading in a system where orders comprise a bid type or an offer type." Ex. 1001, 13:60–62. The '056 patent specification does not describe any specific computer, program, or processing beyond what was known in the art at the time of the invention for implementing the claimed system. 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 1236–1242, *Internet Patent Corp.*, 790 F.3d at 1348–1349. 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).

Claim 1 also recites receiving bid and offer information for a product from an electronic exchange, but does not specify any particular method for doing so. The claim requires displaying a plurality of bid indicators and offer

indicators along a price axis. Essentially, these limitations require plotting bids and offers for a product along a price axis. Plotting information along an axis was a well-understood, routine, conventional, activity. Claim 1 further recites receiving a user input indicating a quantity to be used for each of a plurality of orders to be placed, and indicating a desired price for an order to be placed by selecting one of the locations corresponding to the price along the price axis. Inputting data into a computer was also a well-understood, routine, conventional activity. Finally, the step of sending an order for the quantity and price to the electronic exchange was conventional and well known in the art. *See, e.g.*, Ex. 1010. The additional elements must be more than "well-understood, routine, conventional, activity." *Mayo*, 132 S. Ct. at 1298.

We also agree with Petitioner that none of claims 2–15 transforms the nature of the claims into a patent-eligible application. For example, claims 2–4 recite the further steps of accepting and sending additional orders in the same manner as claim 1. We further agree that claims 5–15 relate to conventional pre- or post-solution activity such as displaying of data (claims 5–9 and 14), basic GUI techniques (claims 11–13 and 15), or conventional point and click technology as recited in claim 10. We agree that these claims recite well-understood, routine, conventional extra-solution activity that are not related to an inventive concept.

Patent Owner argues that the claims pass part two of *Alice* because they recite an inventive concept. PO Resp. 21–28. But in making such arguments, Patent Owner does not explain sufficiently what about the claims qualifies as an inventive concept. For example, Patent Owner describes the

claims as reciting "structural details of a specific GUI that functions differently from prior art GUIs to solve GUI-centric problems." *Id.* at 24. Patent Owner goes on to argue that the "solution to these problems is not only rooted in computer technology, but is *new computer technology itself*; a new GUI with the claimed structure, make-up, and functionality." *Id.* (emphasis added). In making similar arguments regarding features and claims that are not before us in this proceeding (*see*, *e.g.*, PO Resp. 25–28), 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.

For all of the above reasons, Petitioner has shown sufficiently that claims 1–15 of the '056 patent are not directed to patent eligible subject matter under 35 U.S.C. § 101.

D. Obviousness of Claims 1–15 over TSE, Togher, Schott, and Cooper

Petitioner contends that claims 1–15 are unpatentable under 35 U.S.C. § 103 over TSE, Togher, Schott, and Cooper. To support its contentions,

Petitioner provides explanations as to how the prior art meets each claim limitation. Pet. 38–60. Petitioner also cites the Declaration of Kendyl A. Román for support. *See* Ex. 1032 ¶¶ 114–120.

Patent Owner argues that Petitioner fails to establish that TSE was publically accessible, and, thus, prior art. PO Resp. 34–41. Patent Owner also argues that it conceived of the invention prior to the TSE date, and diligently reduced the invention to practice. *Id.* at 41–55. Patent Owner submits arguments and objective evidence of nonobviousness. *Id.* at 55–64. Lastly, Patent Owner separately argues for the patentability of claims 5–7. *Id.* at 64–68.

TSE as prior art

Petitioner argues that TSE is prior art under 35 U.S.C. § 102(a). Pet. 21–22. In support of its showing that TSE qualifies as prior art, Petitioner relies on the November 21, 2005, deposition testimony of Atsushi Kawashima taken during litigation between Patent Owner and a third party, eSpeed, Inc. *Id.*; Ex. 1007.

Whether a document qualifies as a printed publication under 35 U.S.C. § 102(a) is a question of law based on underlying findings of fact. *In re Enhanced Sec. Research, LLC*, 739 F.3d 1347, 1354 (Fed. Cir. 2014) (citing *In re Hall*, 781 F.2d 897, 899 (Fed. Cir. 1986)). The Federal Circuit "has interpreted § 102 broadly, explaining that even relatively obscure documents qualify as prior art so long as the public has a means of accessing them." *Id.* (citing *Hall*, 781 F.2d at 899).

> Our leading case on public accessibility is *In re Hall*, 781 F.2d 897 (Fed. Cir. 1986). In *Hall* we concluded that "a single cataloged

thesis in one university library" constitutes "sufficient accessibility to those interested in the art exercising reasonable diligence." *Id.* at 900. Thereafter, in *Constant v. Advanced Micro–Devices, Inc.*, we explained that "[a]ccessibility goes to the issue of whether interested members of the relevant public could obtain the information if they wanted to." 848 F.2d 1560, 1569 (Fed. Cir. 1988). Therefore, "[i]f accessibility is proved, there is no requirement to show that particular members of the public actually received the information." *Id.*

Enhanced Sec. Research, LLC, 739 F.3d at 1354. The determination of whether a document is a "printed publication" under 35 U.S.C. § 102 involves a case-by-case inquiry into the facts and circumstances surrounding its disclosure to members of the public. *In re Klopfenstein*, 380 F.3d 1345, 1350 (Fed. Cir. 2004).

TSE is entitled "Futures/Option Purchasing System Trading Terminal Operation Guide" of the "Tokyo Stock Exchange Operation System Division." Ex. 1004, 1.[13] In the middle of page 5 is the annotation "August, 1998" above the words "Tokyo Stock Exchange Operation System Division." *Id.* at 5. Petitioner argues that TSE is prior art under 35 U.S.C. § 102(a) because it was published in August of 1998 by giving two copies to each of the about 200 participants in the Tokyo Stock Exchange, who were free to do whatever they wanted with their copies of the publication. Pet. 21–22 (citing Ex. 1007, 0012–33).

In support of its arguments regarding TSE as prior art, Petitioner directs us to portions of Mr. Kawashima's testimony. At the time of his

testimony, Mr. Kawashima testified that he was employed by the Tokyo

Stock Exchange and was so at the time of the TSE manual, August 1998. Ex.

1007, 0005–0011. He further testified that TSE "is the current TSE futures

options trading system terminal document, manual" that was prepared August

of 1998 by the Tokyo Stock Exchange and that he was in charge of preparing

the document. Ex. 1007, 0010–0011. Mr. Kawashima also testified that the

purpose of the manual was that "in 1998 we replaced the futures options

trading system and so this new manual was prepared because there were

changes to the way the trading terminals were operating." *Id.* at 0012.

Kawashima further testified that the manual was distributed to "participants"

in August of 1998, who were "securities companies for banks who are able to

carry out futures options trading at the TSE" and that the "manual was given

to explain those changes" made with respect to the operation of the TSE

trading system and terminals. *Id.* at 0012, 0014. Mr. Kawashima testified

that the manual was given to around 200 "participant" companies—all

companies that conduct futures option trading on the Tokyo Stock Exchange.

Id. at 0013.[14] According to Mr. Kawashima, two copies were distributed to

each company, by having a person from each company come to the Tokyo

Stock Exchange operating system section to pick up their copies of the

manual, and that there was no restriction on what the participants could do

with the 1998 manual once they received it. *Id.* at 0014–0015. Mr.

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[13] References are to pages located at center bottom of the English translation
of TSE (Ex. 1004).
[14] We understand the then "participants" included such companies as
Goldman Sachs Securities, Merrill Lynch, and Morgan Stanley. Ex. 2163,

Kawashima personally distributed the TSE manual to some of the participants. Ex. 2163, 60:13–24.

Notwithstanding Patent Owner's arguments, which we address below, we are persuaded by Petitioner's showing, which we adopt as our own, that TSE qualifies as prior art under 35 U.S.C. § 102(a). Petitioner asserts, with supporting evidence, that TSE was distributed to *participants* in the Tokyo Stock Exchange. Pet. 21; Ex. 1007, 0012, 0014. Based on the evidence before us, the participants were securities companies for banks. The purpose of the distribution of the manual was to alert the securities companies of *changes to the way the trading terminals* of the Tokyo Stock Exchange *operated*. Ex. 1007, 0012, 0014. Indeed, TSE is a user manual that includes for example, in Chapter 2, instructions for terminal system configuration to enable a participant, such as a security company to connect to the Tokyo Stock Exchange. Ex. 1004, 10–25. Chapter 15, entitled "Response To A Problem" provides detailed explanations should a problem arise with terminal equipment, communication circuit difficulties, central system recovery difficulties, etc., along with in-house procured terminal problem handling instructions. *Id.* at 5. Thus, TSE is more than a user manual for how to trade on the Tokyo Stock Exchange, but also includes how to connect electronically to the Tokyo Stock Exchange.

The evidence that is before us, both circumstantial and direct, supports a finding that TSE was made accessible to securities companies and all of the personnel in such a company, who would have employed technical support

58:5–17; Ex. 2169 ¶ 22.

personnel, such as computer scientists or engineers, who would have needed

a copy of the TSE manual to configure their own system to communicate

electronically, and to continue to trade securities, with the Tokyo Stock

Exchange.[15] Thus, the securities companies would have included computer

scientists or engineers, as well as traders. We find that all such persons who

worked at the securities companies would have been interested members of

the relevant public.

Patent Owner's Contentions[16]

Patent Owner argues that the evidence fails to prove TSE is prior art.

PO Resp. 34–41. We begin by addressing Patent Owner's assertions that Mr.

Kawashima's testimony should be given little or no weight because his

testimony is not corroborated and he is an interested witness. *Id*. at 39–41.

Patent Owner argues that Kawashima's employer—the Tokyo Stock

Exchange—challenged Patent Owner's Japanese counterpart to U.S. Patent

No. 6,766,304 by providing TSE to the Japanese Patent Office. *Id*. at 40.

Patent Owner further argues that the Tokyo Stock Exchange wanted the

Japanese Patent Office to rely on "these documents" to prevent TT from

obtaining the Japanese patent. *Id*. at 40–41 (citing Ex. 2163, 39:23–40:20,

42:14–43:10; Ex. 1007, 0110:10–14). Patent Owner concludes that because

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[15] We made a similar finding in our Decision to Institute (Dec. 19), thereby
putting Patent Owner on notice of such finding in support of our
determination that TSE was publically accessible. Patent Owner does not
address such finding or provide evidence to rebut our finding in that regard.
Cuozzo, 136 S. Ct. at 2141.
[16] Patent Owner makes unpersuasive evidentiary arguments as well, which
we address in connection with Patent Owner's Motion to Exclude TSE (Ex.

Kawashima's employer tried to use TSE to prevent TT from obtaining the 6,766,304 patent, Kawashima is not disinterested. *Id*. at 41.

We are not persuaded that Kawashima is an interested witness and that his testimony should be given little weight. First, the patent involved here is not the same as the patent involved before the Japanese Patent Office and we do not understand what Patent Owner means by "these documents." In any event, Patent Owner has not shown that what occurred in a proceeding before the Japanese Patent Office involving a different patent is relevant to the facts of this proceeding. Patent Owner has not shown sufficiently that Mr. Kawashima had an interest, himself, regarding the outcome of the Japanese Patent Office proceeding. Even assuming that the Tokyo Stock Exchange had an interest in that earlier proceeding, it does not follow necessarily that Mr. Kawashima himself had an interest in it as well. We have considered the evidence to which we are directed, but do not find that evidence (passages from Mr. Kawashima's original and cross examination) to support Patent Owner's assertions that Mr. Kawashima is biased. Indeed, when asked if the Tokyo Stock Exchange preferred that vendors like Trading Technologies not have patents on trading screens, Mr. Kawashima testified, that that was "not something I would know." Ex. 2163, 41:6–12. Lastly, Patent Owner has not demonstrated sufficiently that Mr. Kawashima's meetings with Petitioners' attorneys prior to his cross examination is demonstrative of "bias." PO Resp. 41. Patent Owner has not shown why Mr. Kawashima's meeting with Petitioner's counsel prior to his deposition would make him biased. For

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1003), *infra*.

these reasons, we are not persuaded that Mr. Kawashima is an interested witness.

We also are not persuaded by Patent Owner's argument that because Mr. Kawashima's testimony is uncorroborated we should give it little weight. PO Resp. 39–40. In support of the argument, Patent Owner cites to cases regarding an *interested witness*. *See, e.g., id*. at 39. As explained above, Patent Owner has not shown sufficiently that Mr. Kawashima is an interested witness. The other arguments made, e.g., that there is no evidence of when the manuals were picked up or by whom or what a person did with the document once they received it, are factors to consider when determining whether a document was publically accessible, which we address below.

For all of these reasons, we credit the testimony of Mr. Kawashima. We find that the facts discussed above regarding Mr. Kawashima's testimony (Ex. 1007) are supported by a preponderance of the evidence and are undisputed.[17] Although Mr. Kawashima was cross-examined during this proceeding, Patent Owner does not direct attention to portions of his cross examination testimony, or any other evidence, that would outweigh Mr. Kawashima's original testimony (Ex. 1007) regarding what the TSE manual was, why it was distributed, how it was distributed, when it was distributed, and to whom it was distributed.

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[17] The burden of showing something by a preponderance of the evidence simply requires the trier of fact to believe that the existence of a fact is more probable than its nonexistence. *Concrete Pipe & Products of California, Inc. v. Construction Laborers Pension Trust for Southern California*, 508 U.S. 602, 622 (1993).

Patent Owner argues that Petitioner has not established that TSE was publically available. In particular, Patent Owner argues that there is no evidence that anyone actually received a copy of TSE or whether the receivers of such document were persons of ordinary skill in the art. *Id*. at 35–36 (quoting *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1348 (Fed. Cir. 2016) (a reference will be considered publicly accessible if it was "disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence, can locate it.'")).

Patent Owner's argument that there is no evidence that anyone actually received a copy of TSE is misplaced. The proponent of a document need not show that particular members of the interested public *actually received* the information. *See, e.g.*, *In re Enhanced Sec. Research, LLC*, 739 F.3d 1347, 1354 (Fed. Cir. 2014); *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1569 (Fed. Cir. 1988); *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1348 (Fed. Cir. 2016). Rather, accessibility goes to the issue of whether persons interested in the subject matter could obtain the information if they wanted to. *Id*. Here, we have before us persuasive evidence that TSE was made publically accessible by providing two copies to each of the about 200 participants (securities companies for banks) in the Tokyo Stock Exchange, who were free to do whatever they wanted with their copies of the publication. Ex. 1007, 0012, 0014. For these same reasons, we are not persuaded by Patent Owner's implicit argument that Petitioner need show that the two copies of the TSE manual available for pick up by the 200 participant companies actually were picked up. In any event, Mr.

Kawashima testified that he personally distributed the TSE manual to some of the participants. Ex. 2163, 60:13–24.

Patent Owner argues that the participants (securities companies for banks) who allegedly received copies of the TSE manual are not persons of ordinary skill in the art, which Patent Owner submits would be GUI designers, and not traders at a stock exchange. PO Resp. 37. We are not persuaded by Patent Owner's argument.

The patent before us is a business method patent, the subject matter of which is represented by both the business and technical sides of the spectrum. Here, where the patent is directed to trading commodities on an exchange using a computer, we must consider all interested members of the public, which would include not only technical personnel, but traders as well.[18] Traders of commodities at securities companies for banks would be interested members of the public.

In any event, there is sufficient evidence for us to find that the securities companies for banks also would have employed technical personnel as well, and even a "GUI designer." As explained above, the purpose of the TSE manual was to alert the securities companies of changes to the way the trading terminals of the Tokyo Stock Exchange *operated*. Ex. 1007, 0012, 0014. The TSE manual includes information and instructions of how to connect electronically to the Tokyo Stock Exchange. TSE is not

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[18] We note that one of the inventors of the '056 patent has extensive experience as a broker or trader, while the other has a legal background, and some experience "developing game simulations" but neither are "GUI designers." Ex. 2167 ¶¶ 4–7; Ex. 2181 ¶¶ 4–6.

simply a "how to trade commodities" user manual as Patent Owner seems to suggest. The strong circumstantial evidence supports finding that TSE was made accessible to securities companies who would have employed technical support personnel, such as computer scientists or engineers, to configure their system to communicate electronically, and to continue to trade securities, with the Tokyo Stock Exchange, based on the changes in operation of the terminals explained in the TSE manual. Thus, the securities companies would have included computer scientists or engineers, as well as traders. Lastly, even assuming that a person of ordinary skill in the art is narrowly limited to a "GUI designer" as Patent Owner asserts, we find that securities companies for banks ("participants") provided their own front-end order entry software, and that such participants would have employed GUI designers to formulate the front-end order entry software to facilitate trading on the Tokyo Stock Exchange. Ex. 2169 ¶ 22; Ex. 1060, 136:17–138:1.

Patent Owner argues that because participants of the Tokyo Stock Exchange were contractually prohibited from modifying the terminals or software, there was no reason to provide the manual to GUI designers. PO Resp. 37. Patent Owner has not shown sufficiently that such a contractual provision would have prevented persons interested or even ordinarily skilled in the subject matter from receiving copies of TSE. For all of the above reasons, we are persuaded that TSE was publically accessible.

Patent Owner additionally argues that there is no evidence that a person having ordinary skill in the art could have located TSE using "reasonable diligence," because there is no evidence that such a person searching for TSE would find it, such as being placed in a library, indexed, or

catalogued, or directions to locate TSE. PO Resp. 38–39. We determine above, that the record evidence supports a determination that TSE was publically accessible to persons interested and even ordinarily skilled in the subject matter. Patent Owner's arguments are premised on the notion that none of the personnel at the securities banks are interested and ordinarily skilled in the subject matter, which we reject. Thus, Patent Owner's argument is moot. For all of the above reasons, we determine that TSE qualifies as prior art.

Patent Owner's Showing of Prior Invention

Patent Owner argues that if TSE qualifies as prior art, it nonetheless conceived of the invention before distribution of TSE, and diligently reduced the invention to practice thereafter. PO Resp. 41–55.

Patent Owner alleges that the invention was conceived no later than March 1998, actually reduced to practice no later than November 30, 1998, and constructively reduced to practice April 9, 1999, upon the filing of the priority patent application to which the involved patent claims benefit. PO Resp. 43 (citing Ex. 2167 ¶ 12).

Conception

"Conception must be proved by corroborating evidence which shows that the inventor disclosed to others his completed thought expressed in such clear terms as to enable those skilled in the art to make the invention." *Coleman v. Dines*, 754 F.2d 353, 359 (Fed. Cir. 1985).

Patent Owner relies on the declarations of the two named inventors of the '056 patent (Exs. 2167 (Declaration of Richard Friesen) and 2181 (Declaration of Peter C. Hart)), along with a "Trading Game Design

Document" (Ex. 2301 "Design Document"). Patent Owner argues that the Design Document exhibited each element of claim 1. PO Resp. 45 (citing Ex. 2167 ¶ 18; Ex. 2181 ¶ 17). In support of that assertion, Patent Owner directs attention to an annotated version of the screen capture shown on page "PH00000004" of the Design Document, which is relied upon to corroborate the testimony of the inventors. *Id.* at 45–49. We are not persuaded by Patent Owner's showing for the following reasons.

First, it is difficult to discern what is shown on page "PH00000004" of the Design Document with respect to the screen shot. The screen shot from Exhibit 2301 is reproduced here:
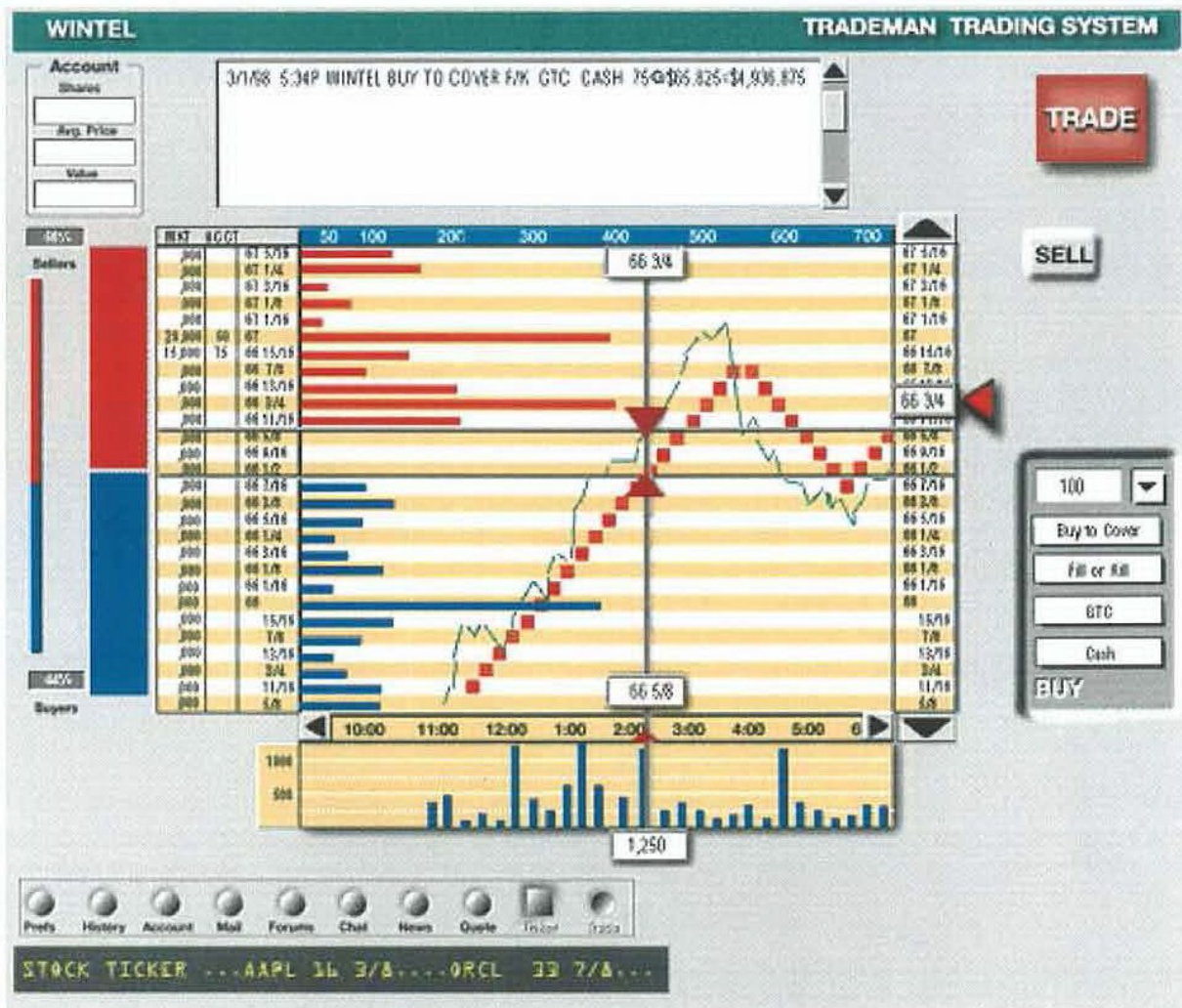
Screen capture of complete sample Trading System GUI [3]

As seen from above, the screen shot is blurry, and not easily readable. This is the evidence that Patent Owner relies on to corroborate the testimony of the named inventors of the '056 patent for certain claim 1 elements. For example, Patent Owner argues that for "displaying a plurality of bid indicators representing quantity associated with the plurality of bid orders" and "displaying a plurality of offer indicators representing quantity associated with the plurality of offer orders," the above screen shot

corroborates inventor testimony that these elements are met. PO Resp. 46–48. Patent Owner annotates the above figure with three inserted boxes. *See, e.g.*, *id*. at 47. The far right vertical listing of what appears to be numbers, is annotated with "this is a price axis." The red bars seen above have been annotated with "these red bars represent the quantity of pending offer orders at a particular price" and the blue bars have been annotated with "these blue bars represent the quantity of pending bid orders at a particular price."

We have reviewed the Patent Owner's arguments and evidence to which we are directed regarding conception. The testimony of the inventors is nearly the same as each other and to the Patent Owner Response at pages 45–50. *Compare*, Ex. 2167 ¶¶ 18–19 with Ex. 2181 ¶¶ 17–18. For the sheer fact that we cannot read the blurry screen shot, we do not find that such screen shot corroborates the testimony of the inventors. We will not simply take the inventor's words at face value for what the blurry screen shot shows. In any event, we agree with Petitioner that it has not been established sufficiently that the red and blue bars represent quantity associated with the plurality of bid [and offer] orders. Pet. Reply 17–18. As pointed out by Petitioner, the red and blue bars could represent the number of orders in the market. *Id*.

Reduction to Practice and Diligence

Because Patent Owner has failed to show that it conceived of the invention, we need not consider Patent Owner's arguments with respect to its alleged reductions to practice (both actual and constructive), which occurred *after* August 1998, the date of TSE. Nonetheless, we make the following

observations regarding Patent Owner's alleged reduction to practice and diligence.

In order to establish an actual reduction to practice, the inventor must establish that: (1) the inventor constructed an embodiment or performed a process that met all of the claim limitations; and (2) the invention would work for its intended purpose. *Cooper v. Goldfarb*, 154 F.3d 1321, 1327 (Fed. Cir. 1998). The inventor's testimony must be corroborated by independent evidence. *Id.* at 1330. A rule of reason applies to determine whether the inventor's testimony has been corroborated. *Price v. Symsek*, 988 F.2d 1187, 1194 (Fed. Cir. 1993). "The rule of reason, however, does not dispense with the requirement for some evidence of independent corroboration." *Coleman*, 754 F.2d at 360. The requirement of "independent" corroboration requires evidence other than the inventor's testimony. *In re NTP, Inc.* 654 F.3d 1279, 1291 (Fed. Cir. 2011).

It is well settled that "[t]here cannot be a reduction to practice of the invention . . . without a *physical embodiment* which includes all limitations of the claim." *UMC Elecs. Co. v. United States*, 816 F.2d 647, 652 (Fed. Cir. 1987) (emphasis added). "It is equally well established that every limitation of the [claim] *must exist* in the embodiment and be shown to have performed as intended." *Newkirk v. Lulejian*, 825 F.2d 1581, 1582 (Fed. Cir. 1987) (emphasis added).

Patent Owner alleges that it reduced the invention to practice no later than November 30, 1998. PO Resp. 55. Based on the evidence before us, we are not persuaded that Patent Owner has demonstrated that the claimed system was actually reduced to practice. Claim 1 requires "receiving bid and

offer information for a product from an electronic exchange" and "sending the order for the default quantity at the desired price to the electronic exchange." Patent Owner acknowledges that the GUI it relies on to show an actual reduction to practice was not connected to an electronic exchange. PO Resp. 54 ("Because this was a simulated market, real money was not at stake and live orders were not being transmitted to any exchange."). Thus, Patent Owner has failed to show that it reduced to practice all of the elements of claim 1, which would include "receiving bid and offer information for a product from an electronic exchange" and "sending the order for the default quantity at the desired price to the electronic exchange."

For similar reasons, Patent Owner has not demonstrated sufficiently that the simulated GUI worked for its intended purpose. *Cooper v. Goldfarb*, 154 F.3d 1321, 1327 (Fed. Cir. 1998). Patent Owner has not directed us to evidence to show that the GUI tested on November 24 and December 16, 1998, for example, worked for its intended purpose. Again, Patent Owner acknowledges that "real money was not at stake and live orders were not being transmitted to any exchange." PO Resp. 54. Thus, having considered all of Patent Owner's arguments and evidence to which we are directed in support of the arguments, we are not persuaded that Patent Owner demonstrates sufficiently that it reduced the invention to practice no later than November 30, 1998.

Lastly, we address Patent Owner's contention that it was diligent from just prior to August 1998 until it filed U.S. Patent Application No. 09/289,550 ("'550 application") on April 9, 1999, from which the application that matured into the '056 patent claims priority. PO Resp. 55 (citing Ex.

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2167 ¶ 37; Ex. 2181 ¶ 37). As provided above, Patent Owner has not shown
that it conceived the invention prior to August 1998, but even if it had, Patent
Owner has not established that it was reasonably diligent from a time just
prior to August 1998 until April 9, 1999, e.g., "the critical period."

A party alleging diligence must account for the entire critical period.
Griffith, 816 F.2d at 626. Even a short period of unexplained inactivity may
be sufficient to defeat a claim of diligence. *Morway v. Bondi*, 203 F.2d 742,
749 (CCPA 1953); *Ireland v. Smith*, 97 F.2d 95, 99–100 (CCPA 1938). "A
patent owner . . . must show there was *reasonably continuous* diligence."
Perfect Surgical Techniques, Inc. v. Olympus Am., Inc., 841 F.3d 1004, 1009
(Fed. Cir. 2016) (citations omitted) (vacating and remanding the Board's
decision finding Patent Owner had not proven the inventor was reasonably
diligent in reducing his invention to practice). An inventor's testimony
regarding his reasonable diligence must be corroborated by evidence. *Brown
v. Barbacid*, 436 F.3d 1376, 1380 (Fed. Cir. 2006).

Patent Owner argues that the invention was constructively reduced to
practice with the filing of the '550 application on April 9, 1999, "a
reasonable span of diligence." PO Resp. 55 (citing Ex. 2167 ¶ 37; Ex. 2181
¶ 37). We focus our discussion on the period from around mid-December
until April 9, 1999. Patent Owner has not directed us to sufficient evidence
showing that it was diligent for that period. For example, Mr. Freisen
testifies that no later than December 11, 1998, he met with Robert Sachs
from Fenwick & West and that over the next three months, "Mr. Sachs and I
exchanged several communications regarding patent application preparation
and prosecution strategy." Ex. 2167 ¶ 37. The only corroborating evidence

that we are directed to during the mid-December until April 9, 1999 time frame is an email from "Unspecified Sender." Ex. 2329. This exhibit is only referenced in Mr. Freisen's declaration. It is not explained in any way by Patent Owner or even in the context of Mr. Freisen's declaration. We decline the invitation to try to figure out what the email is all about. The email has not been shown to corroborate any acts of diligence by the inventors. For these additional reasons, Patent Owner has not accounted sufficiently for the critical period from a time just prior to August 1998 until April 9, 1999.

Analysis

TSE describes a trading system that facilitates trading with an electronic exchange by receiving bid and offer information, displaying it to a user, and accepting and sending bid and offer orders. Ex. 1004, 6–13, 35. A trading terminal displays a GUI for depicting market information on a Board/Quotation Screen (*see id.* at 107). The Figure on page 107 of TSE is reproduced below.

Figure depicting the Board/Quotation Screen

The Board/Quotation Screen includes a central order price at column 11—a price axis. *Id.* at 111. To the left and right of order price column 11, at a location corresponding to price, are bid and offer indicators consisting of numbers representing the quantity of orders in respective columns 12, 13, and 14. *Id.* at 112. The Board/Quotation screen is automatically updated with new bid and offer information from a central system every three seconds. *Id.* at 91. TSE describes a user entering an order by double-clicking at a location along the price axis, which

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automatically displays a pop-up window displaying the selected price. *Id.* at 134, 137. Clicking a send button sends an order to the exchange. *Id.* at 143.

Petitioner identifies the difference between the claimed invention and TSE, explaining that TSE does not describe a default quantity, nor does TSE describe graphical displays. Pet. 38–39. Petitioner relies on Togher and Cooper to teach a default quantity and Schott to teach graphical displays. *Id.*

Togher describes a computer displaying transactional information and facilitating trading with bid and offer orders. Ex. 1008, Abs., Figs. 1–3. Togher describes receiving bid and offer information from an electronic exchange. *Id.* at 6:67–7:19. A user can enter a default quantity called a Normal Trade Size into the Trader Profile screen (Figure 4) and the quantity may be used for subsequent orders with the same quantity. *Id.* at 12:7–10.

Schott describes a computer system that displays graphical indicators representing quantities. Ex. 1009, Abs. In particular, Schott describes representing a given quantity by graphing data in the depiction of a pie chart or bar graph. *Id.* at Figs. 26C, 26D, 19A.

Cooper describes that for user interface designs, it was known to retain a user's last-entered quantity. Ex. 1015, 187–188.

We have reviewed the Petition and the supporting evidence to which we are directed as to how TSE meets all of the claim limitations with the exception of a default quantity and graphical displays. Pet. 39–60. We are persuaded by such showing, and adopt it as our own. We also have reviewed the Petition and the supporting evidence to which we are directed as to how Togher and Cooper teach a default quantity and Schott teaches graphical displays. *Id.* We are persuaded by such showing, and adopt it as our own.

Petitioner also has sufficiently shown why it would have been obvious to combine TSE, Togher, Schott and Cooper. For example, and with respect to claim 1, Petitioner argues that it would have been obvious to add Togher's user-modifiable default values to TSE's electronic trading system. Petitioner argues that the combination would have been nothing more than combining prior art elements according to known methods to yield the predictable and desirable result of reducing the time needed to place an order and reducing the number of errors by reducing the number of operator actions (e.g., keystrokes). Pet. 45–46; Ex. 1032 ¶ 115. Petitioner argues that if the claims require retaining a user's last entered quantity to meet the "default quantity" limitation, then Cooper describes this feature. In particular, Petitioner argues that it would have been obvious to modify the combination of TSE and Togher with Cooper by making the simple design choice to retain the user's last-entered quantity. Pet. 47 (citing Ex. 1032 ¶¶ 107–108). Petitioner additionally argues that it would have been obvious to add Schott's teaching of displaying graphical representations of data with the graphical interface teachings of TSE and Togher. Petitioner argues that the combination would have been nothing more than combining prior art elements according to known methods to yield the predictable and desirable result of reducing the time and effort the user needs to expend to understand the displayed data. Pet. 42; Ex. 1032 ¶ 117. Lastly, Petitioner argues, with supporting evidence, that dependent claims 2–15 are obvious over TSE, Togher, Schott, and Cooper. Pet. 50–60.

Notwithstanding Patent Owner's arguments, which we address below, we are persuaded by Petitioner's showing, which we adopt as our own, that

claims 1–15 are unpatentable based on the combination of TSE, Togher,
Schott, and Cooper for the reasons provided by Petitioner. If a feature has
been used to improve one device, and a person of ordinary skill in the art
would have recognized that it would improve a similar device in that field or
another, implementing that feature on the similar device is likely obvious.
KSR, 550 U.S. at 417. For a patent claim that claims a structure known in the
prior art that is altered by the mere substitution of one element for another
known in the field, the combination must do more than yield a predictable
result. *Id*. at 416. Here, a person of ordinary skill in the art would have
recognized that the addition of Togher's user-modifiable default values, for
example, to TSE's electronic trading system, would have been nothing more
than combining prior art elements according to known methods to yield the
predictable and desirable result of reducing the time needed to place an order
and reducing the number of errors by reducing the number of operator
actions (e.g., keystrokes). Ex. 1032 ¶ 115.

Patent Owner's Contentions

Patent Owner does not dispute that TSE in combination with Togher,
Cooper, and Shultz describe all of the elements of claims 1–4 and 8–15, and
that the combination would have been obvious. PO Resp. 56–68. Patent
Owner contends, however, that the failure of others to make the claimed
combination demonstrates the non-obviousness of the invention. *Id*. at 56–
64. Patent Owner also presents arguments with respect to claims 5–7. *Id.* at
64–68. We first address Patent Owner's arguments regarding claims 5–7.

Claim 5 depends directly from claim 1 and includes displaying an

order icon at a location that corresponds to the desired price level along the price axis, and that the order icon indicates the user's order at the electronic exchange. Claims 6 and 7 each depend directly from claim 5. For claim 5, Petitioner relies on the description in TSE that after data is entered, a trader submits the order using the "send" function to send the order to the central system. Pet. 51 (citing Ex. 1004, 143). Petitioner explains that the order, along with all other orders, is displayed on the client terminals. *Id.* (citing Ex. 1004, 9–10; Ex. 1032 ¶ 123).

Patent Owner argues that the proper construction of "an order icon . . . indicating the user's order at the electronic exchange," is an icon indicating to the user that the user has an order (distinguishes the traders own orders) at a particular level along the price axis. *Id.* at 64–65 (citing Ex. 2169 ¶¶ 62–66). Patent Owner's arguments are premised on a narrow construction of claim 5. *Id.* at 64–67. As indicated above, in the claim interpretation section of this opinion, we do not adopt Patent Owner's narrow interpretation.

Claim 6 depends from claim 5 and recites "displaying the plurality of bid indicators using a first visual characteristic; displaying the plurality of offer indicators using a second visual characteristic; and displaying the order icon using a third visual characteristic." Petitioner contends that the combination of TSE, Togher, Schott and Cooper render obvious claim 6 "because Schott teaches using different colors and textures for difference data sets, and a POSITA would have been motivated to add these teachings to the trading system described by TSE, Togher and Cooper." Pet. 52–53. Petitioner further contends that a person having ordinary skill in the art would have been motivated to apply Schott's technique of using different

visual characteristics such as color and texture for three different data sets to the bids, offers, and the trader's own orders displayed in an electronic trading system disclosed in TSE and Togher to speed trader recognition of different data sets. *Id*. at 53; Ex. 1032 ¶ 140.

Patent Owner argues that Petitioner relies on the aggregate information to fulfill the offer indicators, bid indicators, and order icon. PO Resp. 67–68. Patent Owner further argues that Petitioner fails to explain how the aggregate quantity that is both the bid/offer indicators, and the order icon, would be displayed with different visual characteristics. *Id.* We disagree. As explained above, the Petition relies on Schott's technique of using different visual characteristics for three different data sets to the bids, offers, and the trader's own orders displayed. Pet. 52–53. Petitioner also provides a motivation for using different visual characteristics for the three different sets. *Id.* It is implicit through Petitioner's showing that Petitioner proposes having three different sets, as opposed to an aggregate number as Patent Owner argues. Accordingly, we are not persuaded by Patent Owner's arguments.

E. Obviousness of Claims 1–15 over Silverman, Togher, Cooper, and Hogan

Petitioner contends that claims 1–15 are unpatentable under 35 U.S.C. § 103 over Silverman, Togher, Cooper, and Hogan. To support its contentions, Petitioner provides explanations as to how the prior art meets each claim limitation. Pet. 60–80. Petitioner also cites the Declaration of Kendyl A. Román for support. *See* Ex. 1032 ¶¶ 163–170.

Silverman describes a matching system for trading instruments in which bids are automatically matched against offers for given trading instruments. Ex. 1010, Abstract. Summary market information is displayed at participant's workstation or keystation at various client sites. *Id.* at 6:50–52. The system will display the best inside price for every instrument traded on the system, and preferably the prices are displayed together with the quantity bid or offered at the specified price so that the trader at the keystation can observe the market activity. *Id.* at 6:57–60.

Silverman describes, in connection with Figure 5, a keystation book located at client sites which maintain copies of the best bids and offers contained in the host book of Figure 4 and uses that information to generate displays at the keystations. *Id.* at 10:3–8. Figure 5, annotated by Petitioner with "price axis" is reproduced below.
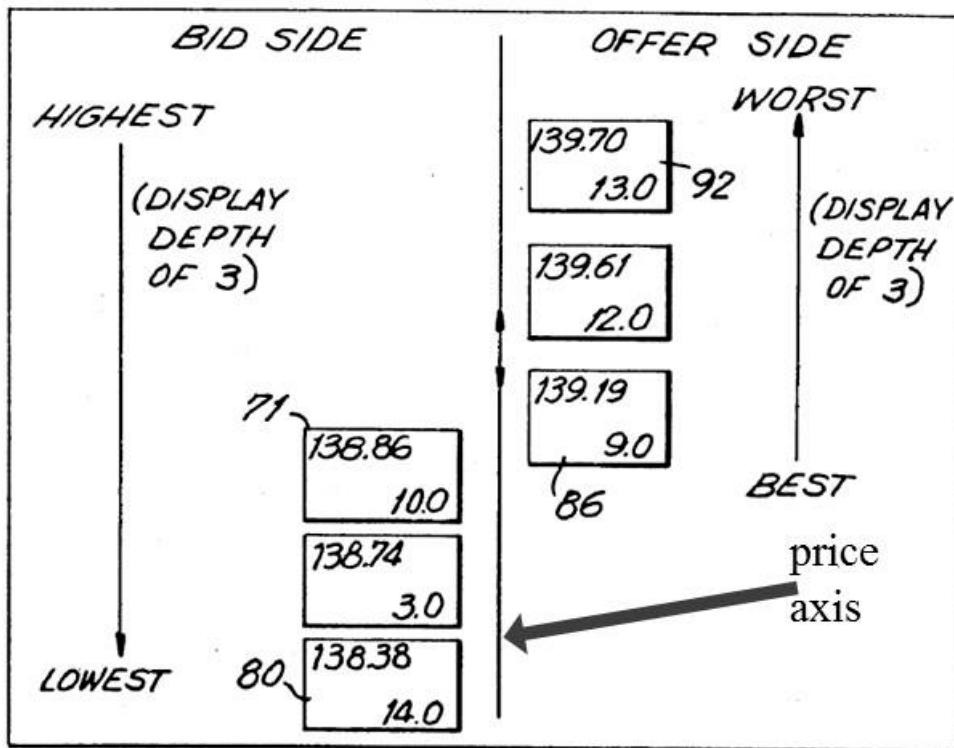
Figure 5 of Silverman, annotated by Petitioner, showing a keystation book

Hogan describes displaying graphical indicators representing underlying quantities. Ex. 1011, 38:4–58, Fig. 17.

Petitioner identifies the differences between the claimed invention and Silverman, explaining that Silverman does not describe a default quantity, or entering data graphically. Pet. 60. Petitioner also addresses the inevitable argument from Patent Owner that Silverman's price axis is not a price axis and submits that it would have been obvious to add labels to the Silverman price axis (Figure 5 labeled above) to help a user determine the scale of the graphed data. Pet. 62; Ex. 1032 ¶ 153. Petitioner also points out that Hogan describes selecting a value by selecting a position along an axis for a value. Pet. 69. Petitioner relies on Togher and Cooper to teach a default quantity (similar to the challenge based on TSE described above) and additionally relies on Hogan to teach entering data graphically. Pet. 60.

We have reviewed the Petition and the supporting evidence to which we are directed as to how Silverman meets all of the claim limitations with the exception of a default quantity and graphical displays. To the extent Silverman's "price axis" is not considered a price axis, Petitioner has shown sufficiently how it nonetheless would have been obvious to add labels to the graph described by Silverman, and further has shown sufficiently that Hogan too teaches selecting a position along an axis for a value. Pet. 60–80. We are persuaded by such showing, and adopt it as our own. We also have reviewed the Petition and the supporting evidence to which we are directed as to how Togher and Cooper teach a default quantity and Hogan teaches graphical displays, selecting a value by selecting a position along an axis for that value,

and entering data graphically. *Id.* We are persuaded by such showing, and adopt it as our own.

Petitioner also has sufficiently shown why it would have been obvious to combine Silverman, Togher, Cooper, and Hogan. For example, and with respect to claim 1, Petitioner argues that it would have been obvious to add Togher's user-modifiable default values and Cooper's teaching of retaining the user's last-entered quantity to Silverman's electronic trading system for similar reasons as it did with respect to the challenge based on TSE. Pet. 65–66; Ex. 1032 ¶¶ 157–158, 165.

Petitioner additionally argues that it would have been obvious to add Hogan's GUI teachings with Silverman, Togher, and Cooper. Petitioner argues that the combination would have been nothing more than combining prior art elements according to known methods to yield the predictable and desirable result of reducing the time and effort the user expends to understand and enter data. Pet. 69–70; Ex. 1032 ¶¶ 168, 169. Lastly, Petitioner argues, with supporting evidence, that dependent claims 2–15 are obvious over Silverman, Togher, Cooper, and Hogan. Pet. 71–80.

Notwithstanding Patent Owner's arguments, which we address below, we are persuaded by Petitioner's showing, which we adopt as our own, that claims 1–15 are unpatentable based on the combination of Silverman, Togher, Cooper, and Hogan for the reasons provided by Petitioner. Here, and with respect to claim 1 in particular, a person of ordinary skill in the art would have recognized that the addition of Togher's user-modifiable default values, for example, to Silverman's electronic trading system, would have been nothing more than combining prior art elements according to known

methods to yield the predictable and desirable result of reducing the time needed to place an order and reducing the number of errors by reducing the number of operator actions (e.g., keystrokes). Ex. 1032 ¶ 165. Further, a person of ordinary skill in the art would have recognized that adding Hogan's GUI teachings to the Silverman and Togher combination (e.g., selecting a value by selecting a position along an axis for that value) would have been obvious, as the combination would have been nothing more than combining prior art elements according to known methods to yield the predictable and desirable result of reducing the time and effort the user expends to understand and enter data. Ex. 1032 ¶¶ 168, 169.

Patent Owner's Contentions

Patent Owner argues that Silverman's Figures 4, 5, and 17 show logical models, not a GUI. PO Resp. 68–71. Patent Owner acknowledges that Silverman describes a display and a separate order entry tool. *Id*. at 70– 71 (citing Ex. 2169 ¶ 75). As explained above, Silverman describes that the system will display the best inside price for every instrument traded on the system, and preferably the prices are displayed together with the quantity bid or offered at the specified price so that the trader at the keystation can observe the market activity. Ex. 1010, 6:57–60, 15:50–55. Order entry may be accomplished through conventional means, such as a keyboard or a mouse. *Id*. at 14:63–64.

Patent Owner argues, however, that such a conventional display and separate entry tool is not a GUI and that Silverman does not describe implementing its figures as a GUI (arguing specifically that nowhere does

Silverman describe that data would be displayed in the manner shown in Fig.

5). PO Resp. 68–71. Based on a similar line of reasoning, Patent Owner also

argues that Mr. Román's testimony cannot be relied upon because

Silverman's figures were not implemented as GUIs and Mr. Román's

testimony is based on his understanding that Silverman's figures were

implemented as GUIs. PO Resp. 74–75 (citing Ex. 2169 ¶¶ 71–89). Patent

Owner's arguments are not persuasive.

None of the claims recite a "GUI" or graphical user interface.

Arguably, the only claim 1 step that would be in the realm of requiring a

GUI, would be the step of "receiving a user input indicating a desired price

… the desired price being specified by *selection of one of a plurality of*

locations corresponding to price levels along the price axis." But even

assuming that the claims require a GUI, Patent Owner's arguments that

Silverman *alone* fails to describe a GUI are misplaced. Petitioner does not

assert that Silverman anticipates claims 1–15. Rather, the challenge is based

on the combination of Silverman, Togher, Cooper, and Hogan. Hogan

describes a GUI, and Petitioner relies on Hogan for the receiving a user input

indicating a desired price step. Pet. 67–69. Mr. Roman testifies to this as

well. Ex. 1032 ¶¶ 154–155, 159–160, 169. Accordingly, Patent Owner's

arguments attacking Silverman alone are not persuasive. Lastly, we do not

find that Mr. Román's testimony (*see, e.g.*, Ex. 1032 ¶ 166) regarding what

was implemented by Reuters as further support for combining Silverman,

Togher, and Hogan discredits his other testimony (*see, e.g.*, Ex. 1032 ¶¶ 154–

155, 159–160, 169) regarding the obviousness of the *claims* before us. We

credit his testimony regarding the obviousness of the claims, and moreover,

give his testimony more weight than that of Patent Owner's witness, Mr. Thomas, because his testimony (*see, e.g.*, Ex. 2169 ¶¶ 80–89), like Patent Owner's arguments is focused narrowly on the teachings of Silverman alone.

We also have considered Patent Owner's argument that a person having ordinary skill in the art at the time of the invention would not have implemented Silverman as a GUI (PO Resp. 71–73), but are not persuaded by such argument. Patent Owner argues that implementing Silverman's figures as trading GUIs would not result in a useful product for a trader because the resulting display would result in a large amount of unused screen space. *Id*. (citing Ex. 2169 ¶¶ 90, 92). Patent Owner's argument is misplaced as the broad claims do not include any orientation limitations or limitations regarding screen space.

We next address Patent Owner's argument that Silverman does not disclose the claimed "price axis." PO Resp. 76–77. In essence, claim 1 requires displaying data (e.g., bid and offer indicators) along a price axis. The claim 1 method further requires receiving a user input indicating a desired price for an order by selecting one of a plurality of locations corresponding to price levels along the price axis. First, Patent Owner's arguments are based on a narrow interpretation of a "price axis" which we disagree with as discussed above in the claim construction section of this opinion. In any event, Petitioner accounts for Patent Owner's narrow interpretation of "price axis." While Petitioner characterizes the modified Silverman Figure 5 shown above as showing a "price axis," Petitioner also relies on Hogan and the knowledge of a person of ordinary skill in the art to explain that displaying indicators along a price axis was known at the time of

the invention. Pet. 61–63, 67–69; Ex. 1032 ¶¶ 153, 155, 160–161. Thus, Patent Owner's arguments regarding Silverman alone (*see, e.g.*, PO Resp. 76–77) are not sufficient to show fault in the Petitioner's reliance on Silverman, Hogan, and the knowledge of a person of ordinary skill in the art for the claimed price axis.

Patent Owner argues that the addition of Hogan to Silverman does not cure Silverman's defects or render the combination obvious. PO Resp. 77–79. In particular, Patent Owner argues that Silverman's figures are not displayed (are not GUIs). As discussed above, this argument is not persuasive. Patent Owner additionally argues that if Silverman's Fig. 5 bars were replaced with Hogan's teaching of bars representing quantity, the result would still not meet the limitation of a price axis. The argument is based on a narrow construction as explained above, and is without merit. In any event, Petitioner accounts for Patent Owner's argument that Silverman does not describe a price axis and explains that it would have been obvious to add labels to the Silverman price axis (Figure 5 labeled above) to help a user determine the scale of the graphed data. Pet. 62; Ex. 1032 ¶ 153. As discussed above, we adopt Petitioner's showing in that regard. Patent Owner, on the other hand, does not address Petitioner's showing that it would have been obvious to add labels to the Silverman price axis to assist a user to determine the scale of the graphed data—a showing we pointed out in our Decision to Institute as well, putting Patent Owner on plenty of notice that such a showing would be an issue for trial. Dec. 28. In summary, we have considered all of Patent Owner's arguments with respect to claim 1, but determine them to be unpersuasive.

Patent Owner presents arguments with respect to claims 5–7. PO Resp. 79–81. Claim 5 depends directly from claim 1 and includes displaying an order icon at a location that corresponds to the desired price level along the price axis, and that the order icon indicates the user's order at the electronic exchange. Claims 6 and 7 each depend directly from claim 5.

Patent Owner argues that Silverman's Figs. 13 and 14 are not a graphical representation (GUI) provided to a user, similar to the arguments Patent Owner made with respect to Silverman's Figs. 4 and 5 above. For similar reasons provided above, we are not persuaded by this argument.

In addition, and for similar reasons discussed above, we do not agree with Patent Owner that claim 5 requires indicating the *specific* user order or indicating to the user that it is his order. *Id*. at 79–81. Patent Owner's arguments in that regard are not commensurate in scope with what is claimed. Patent Owner does not argue for the separate patentability of claims 6 and 7.

Secondary Considerations

In its brief, Patent Owner has a section titled "The Failure of Others to Make the Claimed Combination Demonstrates the Non-obviousness of the Invention." PO Resp. 56–64. That section, however, bears little resemblance to a typical showing of secondary consideration of a failure of others to make *the claimed invention* and does not appear to be particularly relevant to this proceeding. For example, Patent Owner spends several pages (*see, e.g.*, PO Resp. 60–62) discussing U.S. Patent No. 6,772,132 without explaining how that discussion is relevant to the proceeding before us. Patent Owner's arguments as to why a person having ordinary skill in the art would have

viewed TSE (and alternatively Silverman) as wasting screen real-estate and would have rejected its (or Silverman's) teachings is based on whether such teachings would have been commercially viable, which has not been shown to be relevant to the proceeding before us. In summary, we are not persuaded by any of Patent Owner's arguments spanning pages 56–64 of the Patent Owner Response.

F. Patent Owner's Motion to Exclude

Patent Owner moves to exclude Exhibit 1003 (TSE), Mr. Kawashima's deposition (Ex. 1007), and portions of Exhibits 1059 and 1060. PO Mot. to Exclude 1, 4, 6. Exhibit 1003 is the Japanese version of the TSE document. *See, e.g.*, Paper 131, 2. Patent Owner seeks to exclude Exhibit 1003 because it has not been authenticated per rule 901 of the Federal Rules of Evidence (FRE). Patent Owner recognizes that Petitioner relies on Mr. Kawashima's testimony (Ex. 1007) to authenticate TSE, but argues that his testimony is hearsay. PO Mot. to Exclude 2–6. Patent Owner, however, acquiesces that Mr. Kawashima's testimony is not hearsay because he was cross examined. Patent Owner also argues that Mr. Kawashima's testimony raises more doubt than it resolves. *Id.* at 6–7.

Patent Owner's motion with respect to the exclusion of TSE (Exhibit 1003) and Mr. Kawashima's deposition (Exhibit 1007) falls far short of what is required in a motion. The statement of the precise relief requested is lacking. For example, Patent Owner argues that TSE and Mr. Kawashima's deposition should be excluded, but also argues that Mr. Kawashima's deposition falls under the FRE 807 hearsay exception, and, therefore, is admissible. *See, e.g.*, PO Mot. to Exclude 2–6. We understand Patent

Owner's position to be that if we exclude any of Patent Owner's evidence, then we also should exclude Exhibits 1003 and 1007. *Id.* at 6 ("To the extent the Board excludes any of Patent Owner's evidence from district court litigation, which it should not, the Board should likewise exclude the 2005 Kawashima deposition transcript.").

We are not persuaded by Patent Owner's arguments. Patent Owner has not met its burden to show that either Exhibit 1007 or Exhibit 1003 should be excluded from the record. In fact, Patent Owner appears to concede that Mr. Kawashima's testimony is not hearsay because it falls under an exception to the hearsay rule. Nor are we persuaded by Patent Owner's argument that the deposition testimony of Mr. Kawashima (Ex. 1003) raises more doubt than it resolves. PO Mot. to Exclude 6–8. In essence, Patent Owner's arguments go to the weight we should give Mr. Kawashima's testimony, which is not a proper argument for a motion to exclude. For all of these reasons, we are not persuaded that either Exhibit 1003 or 1007 should be excluded from the record and deny that portion of the motion seeking to exclude those exhibits.

Patent Owner also seeks to exclude pages 57–58 of Exhibit 1059 (the cross examination testimony of Mr. Olsen) and pages 248 and 263–269 of Exhibit 1060 (the cross examination testimony of Mr. Thomas). We did not and need not consider the specific pages objected to in Exhibits 1059 and 1060. We have determined that Petitioner has demonstrated, by a preponderance of the evidence, that the challenged claims are unpatentable, without considering the specific objected to pages or the portion of Petitioner's Reply that relies on such evidence and thus dismiss that portion

of the motion seeking to exclude portions of Exhibits 1059 and 1060.

Accordingly, we *deny-in-part* and *dismiss-in-part* Patent Owner's Motion to

Exclude.

G. Petitioner's Motion to Exclude

Petitioner moves to exclude Exhibits 2300, 2301, 2304–2316, 2318–

2324, 2326–2330, 2030, and 2032 in their entirety. Pet. Mot. to Exclude 1.

Exhibit 2327 is a portion of a deposition of Thomas Biddulph from a district

court case. Patent Owner's witnesses, inventors Mr. Friesen and Mr. Hart

reference Exhibit 2327 in their respective declarations (Exs. 2167 and 2181)

in support of their testimony regarding an actual reduction to practice of the

claimed invention. We find it unnecessary to consider the specific objections

to the admissibility of Exhibit 2327, since Patent Owner's arguments

regarding an actual reduction to practice of the claimed invention are not

persuasive for the reasons provided above, even assuming Exhibit 2327 to be

admissible.

Exhibits 2030 and 2032 are a jury verdict and docket entry,

respectively, associated with an earlier district court case involving Patent

Owner and a third party. Although Patent Owner relies on Exhibit 2030 in

its Response, we do not find where it relies on Exhibit 2032. In any event,

we understand Patent Owner to rely on at least Exhibit 2030 in support of its

arguments that TSE is not prior art. PO Resp. 39, n. 5. Petitioner moves to

exclude the exhibits as irrelevant and inadmissible. Pet. Mot. to Exclude 5.

We find it unnecessary to consider the specific objections to the admissibility

of Exhibits 2030 and 2032, since Patent Owner's arguments that TSE is not

prior art are not persuasive for the reasons provided above, even assuming

Exhibits 2030 and 2032 to be admissible.

Exhibit 2301 is a document Patent Owner relies on to support prior conception. Petitioner moves to exclude the document for lack of authenticity. *Id.* at 6. We find it unnecessary to consider the specific objections to the admissibility of Exhibit 2301, since Patent Owner's arguments that it conceived the invention prior to TSE are not persuasive for the reasons provided above, even assuming Exhibit 2301 to be admissible.

Exhibits 2300, 2304–2316, 2318–2324, 2326, 2328, and 2329 are various third-party emails. Petitioner objects to the emails for lack of authenticity and hearsay to which no exception applies. *Id.* Patent Owner relies on the emails in support of its arguments regarding diligence. We find it unnecessary to consider the specific objections to the admissibility of Exhibits 2300, 2304–2316, 2318–2324, 2326, 2328, and 2329, since Patent Owner's arguments regarding diligence are not persuasive for the reasons provided above, even assuming Exhibits 2300, 2304–2316, 2318–2324, 2326, 2328, and 2329 to be admissible.

Accordingly, we *dismiss* Petitioner's Motion to Exclude.

III. CONCLUSION[19]

For all of the above reasons, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–15 of the '056 patent are unpatentable based on the following grounds:

claims 1–15 under 35 U.S.C. § 101 as being patent ineligible;

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[19] In making the obviousness conclusions, we recognize that it is the subject matter of each claim, as a whole, that is evaluated, rather than just each

claims 1–15 under 35 U.S.C. § 103 as being unpatentable over TSE, Togher, and Schott; and

claims 1–15 under 35 U.S.C. § 103 as being unpatentable over Silverman, Togher, Cooper, and Hogan.

IV. ORDER

It is

ORDERED that claims 1–15 of the '056 patent are unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Exclude Evidence is *denied-in-part* and *dismissed-in-part*;

FURTHER ORDERED that Petitioner's Motion to Exclude Evidence 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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individual limitation, separately. 35 U.S.C. § 103.

CBM2015-00179
Patent 7,533,056 B2

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Appendix

D

UNITED STATES PATENT AND TRADEMARK OFFICE

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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.

_____

CBM2016-00032
Patent 7,212,999 B2

_____

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

PETRAVICK, *Administrative Patent Judge*.

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

INTRODUCTION

A. Background

IBG LLC, Interactive Brokers LLC, TradeStation Group, Inc., and TradeStation Securities, Inc. (collectively, "Petitioner") filed a Petition requesting a covered business method patent review of claims 1–35 of U.S. Patent No. 7,212,999 B2 (Ex. 1001, "the '999 patent"). Paper 1 ("Pet."). Trading Technologies International, Inc. ("Patent Owner") filed a Preliminary Response. Paper 12 ("Prelim. Resp.").

On August 8, 2016, we instituted a covered business method patent review (Paper 16, "Institution Decision" or "Inst. Dec.") based upon Petitioner's assertion that claims 1–35 are directed to patent ineligible subject matter under 35 U.S.C. § 101. Inst. Dec. 28. Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 24, "PO Resp.") and Petitioner filed a Reply (Paper 29, "Pet. Reply") to Patent Owner's Response. Pursuant to our authorization, Patent Owner filed an additional submission addressing the Federal Circuit's holding in *Technologies International, Inc., v. CQG, Inc.*, 675 Fed.Appx. 1001 (Fed. Cir. 2017) ("*CQG"*) (Paper 36) and Petitioner filed a reply to that submission (Paper 37). Petitioner filed a Motion to Exclude Evidence (Paper 39, "Pet. MTE"), and Patent Owner filed a Motion to Exclude Evidence (Paper 41, "PO MTE").

We held a joint hearing of this case and several other related cases on May 3, 2017. Paper 50 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6. This Final Written
Decision is issued pursuant to 35 U.S.C. § 328(a) and 37 C.F.R. § 42.73.
For the reasons that follow, we determine that Petitioner has shown
sufficiently that claims 1–35 of the '999 patent are directed to patent
ineligible subject matter under 35 U.S.C. § 101.

B.   *Related Proceedings*

The '999 patent is involved in the following lawsuits: *TT v. IBG LLC*,
No. 1:10-cv-00721 (N.D. Ill.) and *TT v. TradeStation Securities, Inc.*, 1:10-
cv-884 (N.D. Ill.). Pet. 3.

Numerous patents are related to the '999 patent and the related patents
are or were the subject of numerous petitions for covered business method
patent review and reexamination proceedings. As noted above, the Federal
Circuit has issued a non-precedential decision, *CQG*, which addresses
whether claims of U.S. Patent Nos. 6,766,304 ("the '304 patent") and
6,772,132 ("the '132 patent") are patent eligible under § 101. The '999
patent at issue in this case is not related to the '132 and '304 patents via
continuation or divisional filings.

C.   *Asserted Grounds of Unpatentability*

Petitioner contends that the challenged claims are unpatentable under
35 U.S.C. § 101. Pet. 19–35.

D.   *The '999 Patent*

The '999 patent describes a graphical user interface ("GUI") for an
electronic trading system that allows a remote trader to view trends for an

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item, which assists the trader to anticipate demand for an item. Ex. 1001,

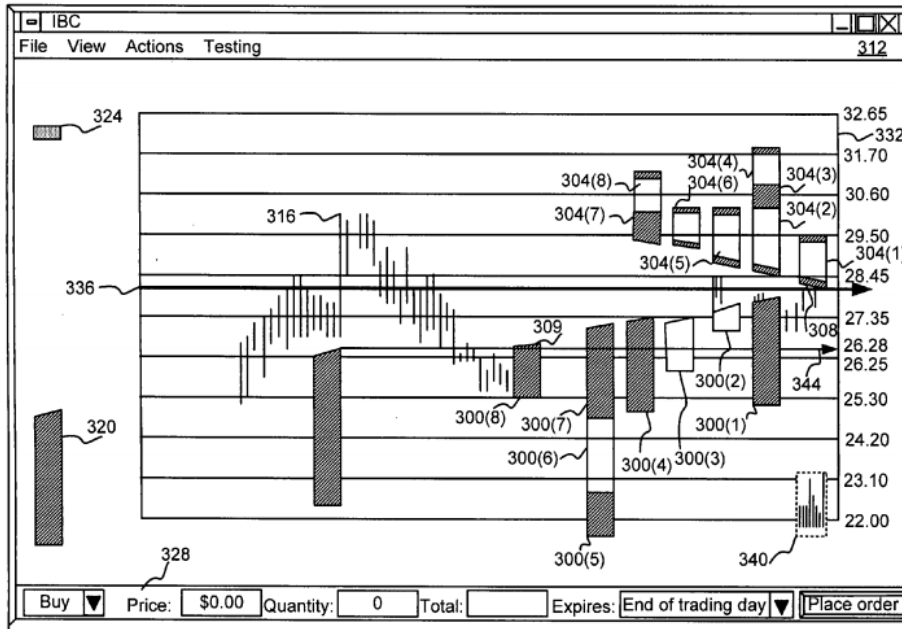2:3–6. Figure 3A of the '999 patent is reproduced below.

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 6:13–15.

The offer icons and the bid icons represent orders in the marketplace. *Id.*

A trader can place an order using the GUI in a variety of ways. *Id.* at

8:26–27. The trader can use task bar 328 to enter the required information

and submit the order using the "Place Order" button. *Id.* at 8:27–33.

Alternatively, the trader can select offer token 324 or bid token 320 using a

pointing device, adjust the size of the token to match a desired quantity, and

drag-and-drop the token to a location that corresponds to the desired value of

the order. *Id.* at 8:38–58. Either a Buy pop-up window or a Sell pop-up

window is displayed, which allows the trader to modify, cancel, or submit the order. *Id.* at 8:54–65; Figs. 3d, 3e.

E.   *Illustrative Claim*

Claims 1 and 35 are independent claims. Claims 2–34 directly or indirectly depend from claim 1. Claim 1 of the '999 patent is illustrative of the subject matter at issue.

> 1. A computer based method for facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:
>
>> displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of prices corresponding to a price associated with the at least one bid;
>>
>> displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along a first scaled axis of prices corresponding to a price associated with the at least one offer;
>>
>> receiving market information representing a new order to buy a quantity of the item for a specified price, and in response to the received market information, generating a bid indicator that corresponds to the quantity of the item bid for and placing the bid indicator along the first scaled axis of prices corresponding to the specified price of the bid;

receiving market information representing a new order to sell a quantity of the item for a specified price, and in response to the received market information, generating an offer indicator that corresponds to the [q]uantity of the item for which the offer is made and placing the offer indicator along the first scaled axis of prices corresponding to the specified price of the offer;

displaying an order icon associated with an order by the user for a particular quantity of the item;

selecting the order icon and moving the order icon with a pointer of a user input device to a location associated with a price along the first scaled axis of prices; and

sending an order associated with the order icon to an electronic trading exchange, wherein the order is of a bid type or an offer type and the order has a plurality of order parameters comprising the particular quantity of the item and the price corresponding to the location at which the order icon was moved.

ANALYSIS

A. *Claim Construction*

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); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation approach). 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). Any special definition for a claim term must be set forth with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

      1.   *"axis of prices" and "indicators, icons, and tokens"*

Petitioner proposes constructions for the following claim terms: "axis of prices" and "indicators, icons, and tokens," which are recited at least in claims 1, 9, and 35. Pet. 13–17. Patent Owner does not challenge Petitioner's proposed claim constructions. We have reviewed Petitioner's proposed constructions and determined that they are consistent with the broadest reasonable constructions for the reason discussed in the Petition. *Id.* We adopt the following claim constructions:

Claim Term	Construction
axis of prices	a reference line for plotting prices, including labeled, unlabeled, visible, and invisible reference lines
indicators, icons, and tokens	a symbol such as an alphanumeric character or a graphic representation of an item

      B.   *Covered Business Method Patent*

Section 18 of the Leahy-Smith America Invents Act, Pub. L. No. 112–29, 125 Stat. 284, 329 (2011) ("AIA") provides for the creation of a transitional program for reviewing covered business method patents. Section 18 limits review to persons or their privies who have been sued or charged with infringement of a "covered business method patent," which

does not include patents for "technological inventions." AIA § 18(a)(1)(B), (d)(1); *see* 37 C.F.R. § 42.302. In compliance with 37 C.F.R. § 42.302(a), Petitioner certifies that it has been sued for infringement of the '999 patent. Pet. 3.

Based on the record before us, we are apprised of no reason to change the determination in our Institution Decision that at least claim 1 of the '999 patent is directed to a covered business method. Inst. Dec. 6–13.

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

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statutory definition of 'covered business method patent' in *Blue Calypso*"),

Versata Development Group, 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 48,736 (Response to

Comment 8). We take claim 1 as representative.

Petitioner contends that the '999 patent is a covered business method

patent because the claims recite receiving and displaying market information

and sending a trade order to an electronic exchange, which are financial

activities. Pet. 4–5 (citing claim 1 of the '999 patent); Pet. Reply 22–24.

Patent Owner does not dispute that the claims are directed to a financial

product or service and, instead, contends that the '999 patent is not a covered

business method patent because the claims are not directed to data

processing or other business method operations. *See* PO Resp. 52–55.

Patent Owner contends that, regardless that some claims recite a method, the

claims of the '999 patent are directed to a device, a GUI tool, and not a data

processing or business method claim. *Id.* at 59–60.

Initially we note that a covered business method patent is not limited

to only patents that claim a method, as opposed to a device. Covered

business method patents include a patent that claims "a method or

corresponding apparatus." AIA § 18(d)(1); *see* 37 C.F.R. § 42.301(a).

Claim 1 of the '999 patent recites: "A computer based method for facilitating

the placement of an order for an item and for displaying transactional

information to a user regarding the buying and selling of items . . . ." Ex.
1001, 14:7–10. As Petitioner points out, claim 1 recites steps of: 1)
displaying market information, including indicators of bids and offers in the
market, 2) receiving and displaying market information, including new bids
and new offers in the market, 3) displaying, selecting, and moving an order
icon to a location along an axis of prices, and 4) sending a trade order to an
electronic trading exchange. Pet. 4; Ex. 1001, 14:7–47.

Buying and selling items and sending a trade order to an electronic
exchange are activities that are financial in nature. A method for facilitating
the placement of an order for an item and for displaying transactional
information to a user regarding the buying and selling of items is a method
for performing data processing or other operations used in the practice,
administration, or management of a financial product or service.

Patent Owner disputes that the '999 patent claims data processing.
PO Resp. 53–55. Patent Owner argues that the statute requires that the "data
processing" cause a significant change in the data, and that data processing
that merely displays the data, like the data processing disclosed in the '999
patent, is not significant. *Id.* Patent Owner's argument is based upon the
assumption that "data processing" in the statute is interpreted according to
the definition of "data processing" found in the glossary for class 705 of the
United States Patent Classification System. *See id* at 53. Patent Owner,
however, does not sufficiently explain why this definition is controlling, as
opposed to the plain meaning of "data processing." *See* Ex. 1048 (dictionary
definition of "data processing" as "the converting of raw data to machine

readable form and its subsequent processing (as storing, updating, rearranging, or printing out) by a computer."), Ex. 1049 (dictionary definition of "data processing" as "the rapid handling of large amounts of information, as business data, by means of mechanical, or esp., computer equipment"). We, thus, are not persuaded that "data processing" as recited by the statute precludes data processing for the purpose of displaying the data. The '999 patent discloses processing market information for display on a client terminal and for sending an order to an exchange. *See e.g.,* Ex. 1001, 10:54–58 ("the order has been processed by the server 200") 11:2–4("server 200 then processes the order information"), 11:42–44 ("the process is repeated"). We, thus, are not persuaded that the '999 patent does not claim "performing data processing . . . used in the practice, administration, or management of a financial product or service" (AIA § 18(d)(1)).

In any event, the statute does not limit covered business method patents to only those that claim methods for performing data processing used in the practice, administration, or management of a financial product or service. It includes methods for performing "other operations" used in the practice, administration, or management of a financial product or service. Patent Owner's arguments imply that "other operations" must be "business operations." *See e.g.,* PO Resp. 52. The statute states that the "other operations" are those that are "used in the practice, administration, or management of a financial product or financial service." AIA § 18(d)(1). There appears to be no disagreement that the claimed method steps are

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operations used in the practice, administration, or management of a commodity or trading a commodity on an electronic exchange, e.g., a financial service. The '999 patent, therefore, at least claims "other operations used in the practice, administration, or management of a financial product or financial service" (AIA § 18(d)(1)).

Patent Owner additionally contends that the Legislative History confirms that the claimed invention is not a covered business method. PO Resp. 58–61. We are not persuaded by Patent Owner's argument. 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). "[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 covered business method patent review. A determination of whether a patent is eligible for a covered business method 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 by Petitioner that the '999 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 "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). 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.

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(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).

Both prongs must be satisfied in order for the patent to be excluded as a technological invention. *See Versata*, 793 F.3d at 1326–7; *Apple Inc. v. Ameranth, Inc.,* 842 F.3d 1229, 1240 (Fed. Cir. 2016).

Petitioner contends that the '999 patent is not for a technological invention because the 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. 3–9. In particular, Petitioner argues that the claims recite trading software that is implemented using conventional computer hardware, servers, and networks, directing attention to a description in the '999 patent that generically refers to "personal computers, terminals as part of a network, or any other computing device" and no specific hardware to carry out the invention. *Id.* at 6–7 (citing Ex. 1001, 4:34–36). Petitioner also argues that electronic trading was well known as of the filing date. *Id.* at 7.

Patent Owner disagrees (PO Resp. 56–58), but fails to explain sufficiently how the *claimed* subject matter recites a technological feature that is novel and unobvious over the prior art or solves a technical problem using a technical solution.

We are persuaded by Petitioner's contentions that at least claim 1 of the '999 patent does not recite a novel and non-obvious technological feature. For example, the "BACKGROUND OF THE INVENTION" section of the '999 patent explains that it was well known for an 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, 1:31–41. There is no indication in the '999 patent that the inventors invented gathering market information, displaying it to a trader, and using the information to facilitate trading a commodity. *See* PO Resp. 57–58 ("This is correct."). The use of a computer to perform these functions also was known in the art at the time of the invention, and the '999 patent does not claim any improvement of a computing device.

Patent Owner argues that the '999 patent is for a technological invention because the claims are directed to a novel and nonobvious GUI tool that improves, and transforms, a computer so it can perform functions it previously could not. PO Resp. 56–58. We disagree that claim 1, for example, is directed to a novel and nonobvious GUI tool that improves, and transforms, a computer so it can perform functions it previously could not. Patent Owner's arguments in that regard are conclusory, and not directed to any specific language from the claims themselves. As explained above, claim 1 is directed to a method for facilitating the placement of an order for an item and for displaying transactional information to a user regarding the

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buying and selling of items, that requires receiving and displaying market information, including indicators of bids and offers in the market and displaying, selecting, and moving an order icon to a location along an axis of prices, and sending a trade order to an electronic trading exchange. Ex. 1001, 14:7–47. Moreover, there is no specific computer, program, or processing described in the '999 patent beyond what was known in the art at the time of the invention.

Given the above, we determine that claim 1 does not recite a technological feature that is novel and unobvious over the prior art. Because both prongs must be satisfied for a patent to be excluded from covered business method patent review for being a technological invention, we find that the '999 patent is eligible for a covered business method patent review for at least the reason that claim 1 fails to recite a technological feature that is novel and unobvious.

Notwithstanding our determination above, we also are persuaded by Petitioner that the '999 patent does not solve a technical problem with a technical solution.

Petitioner also argues that the claimed subject matter does not solve a technical problem using a technical solution, because the problem is a financial one and the solution is to rearrange available market data on a display. Pet. 8–9. In contrast, Patent Owner argues that the claimed subject matter recites a new GUI design (a new technology) that addressed the problem with the old GUI design, and, thus, is directed to solving a technical problem using a technical solution. PO Resp. 56–58. Patent Owner states

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"GUI design is a technology, so new GUIs designed to improve
conventional GUIs are necessarily technological solutions to technological
problems." *Id.* at 56.

We are persuaded by Petitioner that the problem disclosed in the '999
patent is not a technical one. The '999 patent's 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, 2:19–26. The '999 patent states:

> The successful trader anticipates the rise or fall of the value of
> an item and performs his or her own transaction before[]the rest
> of the market is aware of the item's potential gain or loss in
> value. Thus, anticipation of the market is specifically of the
> future demand for an item of interest is critical to the success of
> a trader.

Ex. 1001, 1:20–26.

The '999 patent explains that traders use latest order information and
other information, including historical transaction data, to anticipate the
market and that "it is often difficult for a trader to quickly assemble this
information from diverse and often unrelated sources or even effectively
process all of this information in order to make an informed transaction
decision." *Id.* at 1:51–54. Informing a trader of certain stock market trends
or events is more of a financial problem than a technical problem. The '999
patent solves this problem by "present[ing] this information in an intuitive
format, allowing the trader to make informed decisions quickly." *Id.* at
2:39–41. We are persuaded by Petitioner that the '999 patent does not solve
a technical problem with a technical solution. Further, as discussed above,

claim 1 requires the use of only known technology.

Patent Owner proffers the testimony of Eric Gould-Bear and Dan Olsen to show that GUIs are technology and the claimed invention is a technical solution to a technical problem. *See, e.g.*, PO Resp. 19–21 (citing Ex. 2168 ¶¶ 23–38, Ex. 2174 ¶¶ 13–15, Ex. 2169 ¶¶ 16–18 testimony of Eric Gould-Bear, Dan Olsen, and Christopher Thomas, respectively). The testimony of Mr. Gould-Bear, Dr. Olsen, and Mr. Christopher Thomas is unpersuasive because, although their testimony addresses related patents, it does not specifically address the claimed invention of the '999 patent. For example, Mr. Gould-Bear's testimony is directed to U.S. Patent No 7,904,374. *See* Ex. 2168 ¶ 1. Likewise, Dr. Olsen's testimony is not directed to the claimed invention of the '999 patent. *See* Ex. 2174 ¶ 6, Ex. 2169 ¶ 2. The claims of U.S. Patent No 7,904,374 recite features not recited by the claims of the '999 patent.

Given this, we are persuaded that at least claim 1 does not solve a technical problem using a technical solution and does not satisfy the second prong of 37 C.F.R. § 42.301(b).

3. Conclusion

In view of the foregoing, we conclude that the '999 patent is a covered business method patent under AIA § 18(d)(1) and is eligible for review using the transitional covered business method patent program.

C.   Section 101 Patent-Eligible Subject Matter

Petitioner challenges claims 1–35 of the '999 patent as directed to patent-ineligible subject matter under 35 U.S.C. § 101. Pet. 19–35. Patent Owner disagrees. PO Resp. 3–50

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 independent claim 35 of the '999 patent is invalid because it encompasses a transitory, propagating signal that is encoded, which is subject matter that does not fall into any of the four statutory classes of § 101. Pet. 25 (citing *In re Nuijten*, 550 F.3d 1346, 1352 (Fed. Cir. 2007)); Pet. Reply 18. In our Institution Decision, we determined that the broadest reasonable interpretation, in light of the specification of the '999 patent, encompasses transitory media, but we noted that our construction was preliminary and specifically indicated that "[t]he broadest reasonable interpretation, in light of the specification, of 'recorded' is an issue that requires further development of the record." Inst. Dec. 15.

Patent Owner responds that there is no evidence to support Petitioner's contention that one skilled in the art would have understood "computer readable medium having program code recorded thereon" to encompass a signal at the time of the invention. PO Resp. 48. Petitioner responds to Patent Owner's contentions by simply asserting that "the Board should apply the same BRI of 'computer readable medium' that the PTO has applied in thousands of matters." Pet. Reply 22–24 (citing Manual of Patent Examining Procedures § 2106, *Ex parte Mewherter*, 107 USPQ2d 1857(PTAB 2013) (precedential)).

Petitioner's response is unhelpful. Petitioner fails to offer sufficient evidence or persuasive argument as to how one skilled in the art would have understood the phrase "computer readable medium having program code recorded thereon" as it relates to the '999 patent. At oral hearing, when asked why no evidence was provided in this regard, Petitioner had no explanation other than "it would be difficult . . . because this is a term of art in the patent field" and "you can[not] go to an IEEE dictionary and find necessarily a dictionary definition that would be helpful here." Tr. 71:4–10.

Accordingly, on this record, we are not persuaded by Petitioner that at the time of the invention one skilled in the art would have understood "computer readable medium having program code recorded thereon" as encompassing transitory, propagating signals.

Even if claim 35 fits within one of the categories of patent-eligibility, we are persuaded that claims 1–35 do not recite patent-eligible subject matter for the reasons that follow.

1. Eligibility

Patent-eligible subject matter is defined in § 101 of the Patent Act, which recites:

> 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.

There are, however, three judicially created exceptions to the broad categories of patent-eligible subject matter in § 101: 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, itself, is patent-ineligible, an application of the abstract idea may be patent-eligible. *Alice*, 134 S. Ct. at 2355. Thus, 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 1297–98). 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

"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). "The § 101 inquiry must focus on the language of the Asserted Claims themselves." *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1149 (Fed. Cir. 2016); *see also Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1345 (Fed. Cir. 2013) (admonishing that "the important inquiry for a § 101 analysis is to look to the claim"); *Content Extraction & Transmission LLC v. Wells Fargo Bank,*

Nat'l Ass'n, 776 F.3d 1343, 1346 (Fed. Cir. 2014) ("We focus here on whether the claims of the asserted patents fall within the excluded category of abstract ideas.").

According to Petitioner, the challenged claims are directed to the abstract idea of graphing (or displaying) bids and offers to assist a trader to make an order. Pet. 19–20. This is consistent with claim 1 of the '999 patent. Claim 1 is representative of independent claims 1 and 35. Claim 1 recites a "method for facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items." Claim 1 recites multiple steps of receiving and displaying market information, including indicators of bids and offers in the market, of new bids and offers in the market, and of an order by the user. Claim 1 also recites steps that require sending an order to an electronic trading exchange. The focus of the claim is on collecting and displaying market order information so that a user (i.e., a trader) can place an order. The disclosure of the purported problem solved by the '999 patent is consistent with this focus. The '999 patent discloses that the difference between its system and "conventional systems" is that its system displays all of the outstanding bid and offer orders and not just the highest bid and lowest offer to a trader. Ex. 1001, 2:15–19, 2:28–38. A trader having such information is at an advantage because the trader can better anticipate the market and future demand for an item when placing an order. *Id.* at 1:26–58. Collecting information and displaying the information, without more, is within the realm of abstract ideas. *Electric Power Group, LLC v. Alstom S.A.,* 830 F.2d

1350, 1352 (Fed. Cir. 2016).

Claim 1 does not recite any limitation that specifies how the computer implements the steps. *See* PO Resp. 57 ("the claims are to the functioning of GUI tool, not to the underlying computer by itself or to how instructions in software to provide a particular interface to an application are translated by the computer to control the individual pixels of a screen.") For example, claim 1 recites displaying an arrangement of the market information. Claim 1 requires displaying bid and offer indicators along a scaled axis of prices. *Id.* at 14:13–22. The '999 patent does not disclose an unconventional or improved method of mapping the bid indicators, offer indicators, or scaled price axis to the display. As Petitioner points out, numerous prior art references disclose that plotting bids and offers along a price axis was conventional in the electronic trading art. *See* Pet. Reply 4 (citing Ex. 1016, 0107, Ex. 1023, Fig. 2b, Ex. 1022, Figs. 4–5, Ex. 1050, Fig. 5A).

We agree with Petitioner that the abstract idea of graphing (or displaying) bids and offers to assist a trader to make an order is a fundamental economic practice or a process that can be performed using pen and paper. Pet. 23; *see also* Ex. 1012 ¶¶ 69–71, 81 (supporting testimony of Kendyl Roman). The '999 patent discloses that it was known for traders on an exchange to use information, such as highest bid, lowest offer, historical transaction data, etc., when making a trade. *See* Ex. 1001, 1:13–58. Exhibit 1027 discloses that long before the '999 patent, traders maintained books that plotted bids and asks (e.g., the market depth) along a price axis. *See* Ex. 1027, 44–46. Figure 4-2 of Exhibit 1027 is reproduced below.

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FIGURE 4-2. *A page in the specialist's book.*

Figure 4-2 depicts a page of a book of a trader. *Id.* at 44–45. Orders to buy or sell a commodity are plotted along a prices axis. For example, Figure 4-2 shows the best bid at 22¼ and the best ask at 22⅝. *Id.* at 44.

Given this, we determine that placing an order based on displayed market information, such as the inside market and a few other orders, as well as updating the market information is a fundamental economic and conventional business practice.

The claims at issue here are like the claims at issue in *Affinity Labs.* In *Affinity Labs*, the claim at issue 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 Labs*, 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. The claims at issue here are also like the claims at issue in

Apple, Inc. v. Ameranth, Inc., 842 F.3d 1229 (Fed. Cir. 2016). 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. *Ameranth* 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 claimed the resulting systems. The court thus determined that the claims were 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. Here, the claims also recite the resulting display and are not directed to specific improvements in the way the computers operate. "Though lengthy and numerous, the claims [that] do not go beyond requiring the collection, analysis, and display of available information in a particular field, stating those functions in general terms, without limiting them to technical means for performing the functions that are arguably an advance over conventional computer and network technology" are patent ineligible. *Elec. Power Group,* 830 F.3d at 1351. "Generally, a claim that merely describes an 'effect or result dissociated from any method by which [it] is accomplished' is not directed to patent-eligible subject matter." *Ameranth,* 842 F.3d at 1244 (quoting *Internet Patents Corp. v. Active Network, Inc.,* 790 F.3d 1343, 1348 (Fed. Cir. 2015)).

Claim 1 of the '999 patent 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

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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 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, in contrast, claim 1 is directed to a fundamental economic principle or a longstanding commercial practice and not directed to an improvement in the computer: it is directed simply to the use of a display in a method for facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items.

Further, claim 1 of the '999 patent is unlike the claims at issue in *McRO, Inc. v. Bandai Namco Games America Inc.,* 837 F.3d. 1299 (Fed. Cir. 2016). 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 along a price axis.

Patent Owner argues that the claims of the '999 patent are similar to those of the '304 patent and the '132 patent found to be eligible in *CQG*. Paper 36. The claims of the '999 patent are different from and are broader in some aspects than the claims of the '304 patent and '132 patent. *See* Paper 37, 1. For example, claim 1 of the '999 patent does not require a static price axis or single action order entry. *Id.* In *CQG*, the court indicated that even those narrower claims are on the line between patent eligibility and ineligibility (*see id.* at *4 (noting the "close question[] of eligibility")). The specification of the '999 patent is different from those in the '304 patent and the '132 patent. Thus, comparing the claims of the patents involved in *CQG* is not particularly helpful here.

3. Inventive Concept

To be patent eligible, a claim directed to an 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." *Id.* at 2355 (quoting *Mayo*, 132 S. Ct. at 1297–98). The additional elements must be more than "well-understood, routine, conventional, activity." *Mayo*, 132 S. Ct. at 1298.

Petitioner contends that claim 1 does not recite an inventive concept. Pet. 25–28; Pet. Reply 15–18. Patent Owner disagrees. PO Resp. 24–26.

Claim 1 does not recite 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." *Alice*, 134 S. Ct. at 2355 (citing
Mayo, 132 S. Ct. at 1294). Receiving market information is nothing more
than a routine data gathering step. *See* Ex. 1001, 1:31–35. Routine data
gathering does not transform the abstract idea into a patent-eligible
invention. *See CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366,
1370 (Fed. Cir. 2011) (holding "[t]he mere collection and organization of
data" patent-ineligible). Displaying information as indicators along a scaled
price axis is well-understood, routine, conventional activity (*see* Ex. 1016,
0107, Ex. 1023, Fig. 2b, Ex. 1022, Figs. 4–5, Ex. 1027, Ex. 1050, Fig. 5A)
that does not add significantly more to the abstract idea. *See Mayo*, 132 S.
Ct. at 1298,

Patent Owner contends that 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. PO Resp. 24–26. Patent Owner relies upon the testimony of
Mr. Christopher Thomas to show that "the claimed combination did not exist
prior to the invention in either the physical world or as a GUI." *Id.* at 22
(citing Ex. 2169 ¶¶ 41, 46–53). Mr. Thomas's testimony is unpersuasive
because, as discussed above, it does not specifically address the claimed
invention of the '999 patent. *See* Ex. 2169 ¶¶ 1, 43 (discussing U.S. Patent
No 7,904,374). 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 hold 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 claim requires nothing more than a generic computer to perform the method of claim 1.

The individual elements of the claim do not transform the nature of the claim 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 claim simply recites the use of a generic computer with routine and conventional functions. Even considering all of the elements as an ordered combination, the combined elements also do not transform the nature of the claim into a patent-eligible application.

For the reasons discussed above, claims 1 and 35 of the '999 patent are not directed to patent eligible subject matter under 35 U.S.C. § 101.

Petitioner contends that the additional elements recited by dependent claims 2–34 do not add significantly more to the abstract idea so as to render the claims patent-eligible. Pet. 33–35. Patent Owner makes no arguments specifically directed to the additional elements of these claims. We also have considered the other claims of the '999 patent and, for similar reasons, the claims 2–34 are not directed to patent eligible subject matter.

D.   *Motions to Exclude*

Petitioner moves to exclude various ones of Patent Owner's Exhibits. Pet. MTE 2–10. Because the outcome of this trial does not change based on

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whether or not we exclude those exhibits, we *dismiss* Petitioner's Motion to Exclude as moot.

Patent Owner moves to exclude certain testimony of its declarant Mr. Christopher Thomas. PO MTE 1–8 (seeking to exclude Ex. 1047, 248, 263–269). Because we did not rely upon this testimony in our decision, we *dismiss* Patent Owner's Motion to Exclude as moot.

CONCLUSION

For the foregoing reasons, we determine that Petitioner has shown, by a preponderance of the evidence, that claims 1–35 of the '999 patent are patent-ineligible under 35 U.S.C. § 101.

ORDER

For the reasons given, it is:

ORDERED that claims 1–35 of the '999 patent are patent-ineligible under 35 U.S.C. § 101;

FURTHER ORDERED that Petitioner's Motion to Exclude Evidence and Patent Owner's Motion to Exclude Evidence are *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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