

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CQG, INC. and CQG, LLC (f/k/a CQGT, LLC),
Petitioner,

v.

CHART TRADING DEVELOPMENT, LLC,
Patent Owner.

Case CBM2016-00048
Patent 8,060,435 B2

Before JAMESON LEE, KEVIN F. TURNER, and
KEVIN W. CHERRY, *Administrative Patent Judges*.

CHERRY, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background

CQG, Inc. and CQG, LLC (collectively, “Petitioner”) filed a Petition (Paper 5, “Pet.”) requesting review under the transitional program for covered business method patents of the AIA¹ of claims 1–31 (“the challenged claims”) of the U.S. Patent No. 8,060,435 B2 (Ex. 1001, “the ‘435 patent”). Chart Trading Development LLC (“Patent Owner”) filed a Preliminary Response. Paper 10 (“Prelim. Resp.”). Pursuant to 35 U.S.C. § 324, in our Decision to Institute, we instituted this proceeding as to claims 1–31 on the asserted ground that the challenged claims are directed to non-statutory subject matter, under 35 U.S.C. § 101. Paper 12 (“Dec.”).

After the Decision to Institute, Patent Owner filed a Patent Owner Response (Paper 20, “PO Resp.”), and Petitioner filed a Reply to the Patent Owner Response (Paper 26, “Pet. Reply”). Patent Owner also filed a Contingent Motion to Amend (Paper 21, “Mot. Amend”), Petitioner filed an Opposition to the Motion to Amend (Paper 27, “Opp. Mot. Amend”), and Patent Owner filed a Reply in Support of its Motion to Amend (Paper 30, “Reply Mot. Amend”). Petitioner filed a Motion to Exclude (Paper 32, “Mot. Exclude”), Patent Owner filed an opposition to the Motion to Exclude (Paper 37, “Opp. Exclude”), and Petitioner filed a reply in support of its Motion to Exclude (Paper 38, “Reply Mot. Exclude”). An oral hearing was held on June 8, 2017. Paper 42 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6(b). This Decision is a Final Written Decision under 35 U.S.C. § 328(a) as to the patentability of the

¹ Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284, 329 (2011) (“AIA”).

challenged claims. Based on the complete record, we determine Petitioner has demonstrated, by a preponderance of the evidence, that claims 1–31 are unpatentable, we deny Patent Owner’s Motion to Amend, and we deny Petitioner’s Motion to Exclude.

B. Related Matters

The ’435 patent is the subject of several related U.S. district court proceedings: *Chart Trading Development, LLC v. CQG, Inc.*, No. 6:15-cv-01133-JRG-JDL (E.D. Tex.); *Chart Trading Development, LLC v. Interactive Brokers, LLC*, No. 6:15-cv-01135-JDL (E.D. Tex.); and *Chart Trading Development, LLC v. TradeStation Group, Inc.*, No. 6:15-cv-01136-JDL (E.D. Tex.). Pet. 7–8; Paper 7, 2. A number of patents are related to the ’435 patent and some of the related patents are the subject of petitions for covered business method patent review. Paper 7, 2.

C. The Asserted Ground

We instituted this proceeding only on Petitioner’s ground challenging claims 1–31 as patent ineligible under 35 U.S.C. § 101. Dec. 32.

D. The ’435 Patent

The ’435 patent is titled “Systems and Methods for Providing a Trading Interface.” Ex. 1001, at [54]. According to the ’435 patent, at the time of the invention, electronic trading was becoming more popular and there was a need for new systems and methods to enter trade commands in a quick, efficient, and accurate manner. *Id.* at 1:20–23. The ’435 patent contends that “in one method of electronic trading, bids and offers are submitted by traders to a trading system, those bids and offers are then displayed by the trading system to other traders, and the other traders may then respond to the bids and offers by submitting sell (or hit) or buy (or lift

or take) commands to the system.” *Id.* at 1:23–28. According to the ’435 patent, many implementations of electronic trading, while generally accurate, are slow because the traders are forced to use both a keyboard and a mouse to trade. *Id.* at 1:29–32. The ’435 patent also explains that using a keyboard to execute a trade is faster than with a mouse. *Id.* at 1:38–42. Yet, the ’435 patent explains that traders, at the time of the invention, still continued to use a mouse because “it is considered easy to use, and thus traders feel that they are less likely to make unwarranted trading mistakes with a mouse” and many professional traders “prefer to forgo speed and efficiency for peace of mind.” *Id.* at 1:43–49.

The ’435 patent contends that traders using mouse-based trading interfaces are at a disadvantage when competing with full-time keyboard traders because of the time it takes to “physically move a mouse pointer from an indicator for the desired instrument, [which] is at some given point on a trading screen, to some other point on the screen where bidding/offering and bidding/selling commands can be entered.” *Id.* at 1:50–60. Thus, the ’435 patent states that it offers a solution to this problem describing a system and method where the trader can use various trading interfaces to initiate trading commands, configure various display features and default command settings, and control a level of command entry verification that is provided to protect against inadvertent entry of incorrect trading commands. *Id.* at 2:2–7.

Figure 1 of the '435 patent is reproduced below:

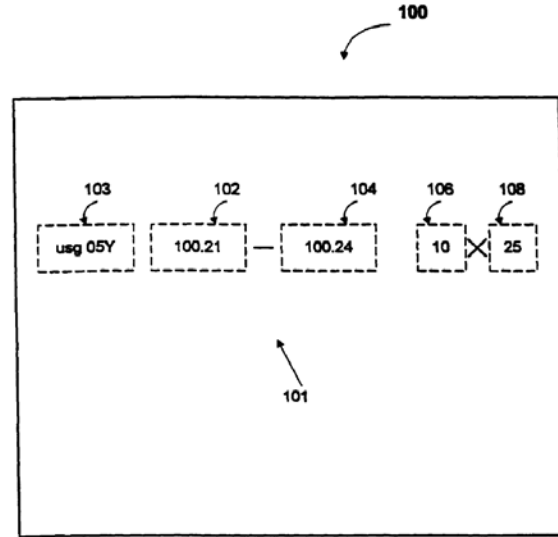


FIG. 1

Figure 1 shows a market cell 100 or main trading window that may be used to display one or more bid and/or one or more offer 101 for an item to be traded. *Id.* at 3:21–24. Bid and offer 101 indicates price 102 that a buyer is willing to pay for selected item 103 at given size 106 (i.e., a number of the item) and price 104 that a seller is willing to accept for selected item 103 at given size 108. *Id.* at 3:24–28. In order to bid for, offer to sell, buy, and/or sell an item through market cell 100, a trader may submit a trading command indicating the action to be taken using, for example, a command-line interface or using a graphical interface. *Id.* at 3:42–48. “A trader may also indicate a desire to bid, offer, buy, and/or sell an item by clicking on different portions of a bid and offer 101 for that item in market cell 100.” *Id.* at 3:56–58. In particular, these features allow the user to click on a bid price, offer price, bid size, or offer size in a market cell to indicate a desire to submit a bid or offer or to sell or buy an item, respectively. *Id.* at 3:58–64.

“[A]fter clicking on a component [(i.e., a field)] of a bid and offer 101 in a market cell 100, an entry verification feature of the present invention may display a graphical interface to a trader to allow the trader to alter and/or confirm the command being submitted.” *Id.* at 5:12–16. Specifically, the entry verification feature displays a dialog window 200 (Fig. 2). *Id.* at 5:21–27, 5:35–38, 6:66–7:2.

Figure 2 of the '435 patent is reproduced below:

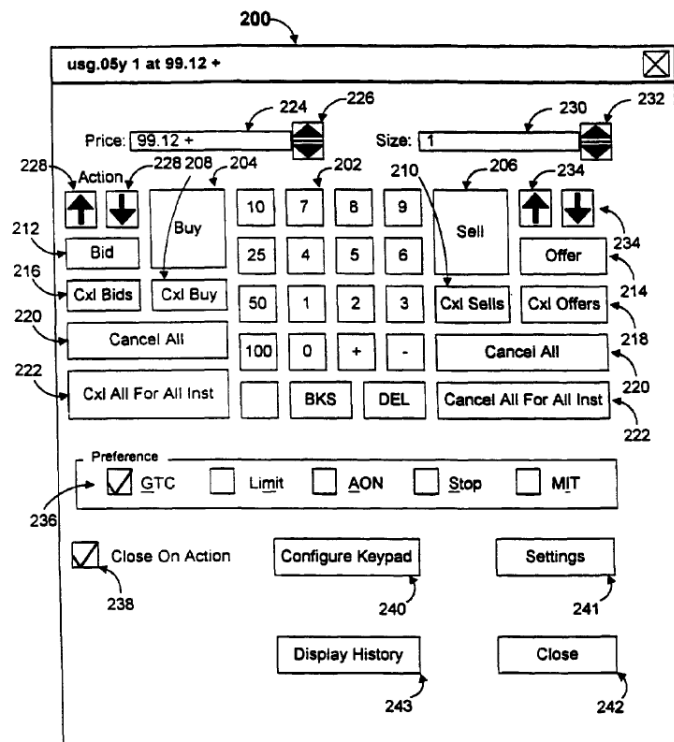


FIG. 2

Figure 2 illustrates one embodiment of a graphical user interface for submitting trading commands. *Id.* at 4:10–11. As shown, the graphical user interface comprises dialog window 200 with various buttons and entry fields 202–242. *Id.* at 4:11–13. Using these buttons and entry fields, a trader may submit a bid command, an offer command, or a sell command for an item corresponding to market cell 100. *Id.* at 4:13–16. Dialog window 200 also

provides numeric keypad 202, buy button 204, sell button 210, bid button 212, offer button 214, cancel bid button 216, cancel offers button 218, cancel all button 220, cancel all for instruments button 222, price entry field 224, price up and down buttons 226, bid price up and down buttons 228, offer price up and down buttons 234, size entry field 230, size up and down buttons 232, and preference field 236. *Id.* at 4:26–56.

E. Illustrative Claim

The '435 patent has three independent claims—claims 1, 19, and 31. Claims 1 is a method claim and claims 19 and 31 are apparatus claims. Claim 1 of the '435 patent is illustrative of the challenged claims and is reproduced below:

1. A method, comprising:

displaying, by a processor of a computing device, a first interface that comprises a first variable associated with trading an item, in which the first variable comprises a price of the item;

displaying, by the processor, data in a second interface in response to a selection of the first variable at the first interface, in which the second interface comprises:

a price field, in which a price displayed in the price field is adjustable;

a size field, in which a size displayed in the size field is adjustable, and in which the price and the size are associated with trading the item;

a first button, in which the first button, when selected causes a trading command to be submitted;

a size up button and a size down button, in which the size up button when selected increases the size displayed in the size field and in which the size down button when selected decreases the size displayed in the size field;

a price up button and a price down button, in which the price up button when selected increases the price displayed in the price field and in which the price down button when selected decreases the price displayed in the price field;
and
one or more numeric buttons;
receiving a selection of the first button; and
submitting, by the processor, the trading command for execution in response to receiving the selection.

Ex. 1001, 12:10–38.

II. ANALYSIS

A. Requirements for Covered Business Method Patent Review

In the Decision to Institute, at 8–17, we determined that the '435 patent is a covered business method patent and meets the standing requirement for covered business method patent review. In its Patent Owner Response, Patent Owner does not challenge this determination. Thus, we are presented with no reason to change our original determination, and adopt our determination and our reasoning for purposes of this final written decision.

B. Claim Construction

In a covered business method patent review, the Board interprets claim terms in an unexpired patent according to the broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.300(b); *Versata Dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1328 (Fed. Cir. 2015) (affirming use of broadest reasonable construction standard in a covered business method patent review); *see Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142–46 (2016) (upholding related rule in *inter partes* review). Under that standard, and

absent any special definitions, we give claim terms their ordinary and customary meaning, as they would be understood by one of ordinary skill in the art at the time of the invention. *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).

In our Decision to Institute, we determined we did not need to construe any claim terms for the purposes of our decision. *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

In its Patent Owner Response, Patent Owner seeks construction of the term “second interface” and disputes Petitioner’s proposed construction of “electronic trade system.” Petitioner has withdrawn its claim construction for “electronic trade system” that Patent Owner disputes. Pet. Reply 2. Thus, we do not discern a need to construe that term. As for “second interface,” we construe that term below.

“second interface” (all claims)

Patent Owner argues that the term “second interface,” which is found in all of the independent claims, should be construed as “a visual-based environment that enables the exchange of input and output between a user and a computer.” PO Resp. 13. Patent Owner bases its construction on a set of dictionary definitions for the terms “interface,” “graphical user interface,” and “interactive.” See Ex. 2012 (“interface”); Ex. 2013 (“interactive”); Ex. 2014 (“graphical user interface”); Ex. 2021 (“interactive”). Petitioner contends that Patent Owner is improperly importing limitations into this term. Pet. Reply 1–2. Petitioner argues that the term should be construed as a “graphical interface.” *Id.* at 2. We agree with Petitioner that Patent Owner

seeks to improperly limit the term “second interface.” First, only one of the terms Patent Owner relies upon for its dictionary definitions is actually recited in the claims. The terms “graphical user interface” and “interactive” are absent from the claims. Moreover, the term “graphical user interface” is not used in the specification. Thus, we are reluctant to import the general meaning of these terms into the claims. For example, with respect to “interactive,” there is nothing in the claims that requires the “second interface” be involved in the “exchange of input and output.” Although the claims recite the second interface receiving input from the user, there is no discussion in the independent claims of displaying outputs from the trading system or “exchanging information” from the computer to the user. To the extent other claims explicitly recite exchanging information, we do not believe it is necessary to incorporate that limitation into this term. *See Apple, Inc. v. Ameranth Inc.*, 842 F.3d 1229, 1237 (Fed. Cir. 2016) (“Construing a claim term to include features of that term already recited in the claims would make those expressly recited features redundant.”).

In addition, from the definition of “graphical user interface,” Patent Owner derives the requirement that the “second interface” be an “environment.” It is unclear what this term adds to construction. The term “environment” is not used in the specification, so we are left to speculate what additional features that term might pull into or exclude from the claim. To the extent that Patent Owner is attempting to use the term “environment” to incorporate additional software components that are not claimed and not described in the specification, we decline to do so. Instead, we rely on the specification’s description of the graphical interface that the parties agree is

what is attempted to be claimed as the “second interface.” The specification describes the “second interface” as follows:

In order to initiate a trading command using the present invention, a trader may enter the command using a command-line interface, click on a component of a bid and offer in a market cell, enter the command using a graphical interface, or may click on a piece of data in a data window. After initiating a command from a command-line interface, a market cell, or a data window, the present invention may verify the entry by presenting a graphical interface. This interface may be the same graphical interface that may be used to enter a trading command. In addition to displaying the graphical interface, a mouse pointer may be redirected to a portion of the graphical interface to speed up entry of the trading command. After initiating the command, but before completing the command, a trader may then alter the parameters of the command either to complete entry of the parameters or to correct one or more incorrect entries.

Ex. 1001, 2:8–23. Thus, the specification describes what is attempted to be claimed as the “second interface” simply as a “graphical interface.” We determine that this is the broadest reasonable construction consistent with the specification. Thus, we construe the term “second interface” as a “graphical interface.”

C. Asserted Ground under 35 U.S.C. § 101

Petitioner alleges that each of the challenged claims is ineligible for patenting under Section 101. Pet. 23–53.

A patent may be obtained for “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” 35 U.S.C. § 101. The Supreme Court has held that this statutory provision contains an important implicit exception: 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); *Gottschalk v. Benson*, 409

U.S. 63, 67 (1972) (“Phenomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.”). Notwithstanding that a law of nature or an abstract idea, by itself, is not patentable, the practical application of these concepts may be deserving of patent protection. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293–94 (2012).

In *Alice*, the Supreme Court reaffirmed the framework set forth previously in *Mayo* “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.* If the claims are directed to a patent-ineligible concept, the second step in the analysis is to consider the elements of the claims “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*, 132 S. Ct. at 1289, 1297). In other words, the second step is to “search for an ‘inventive concept’—*i.e.*, an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Id.* (quoting *Mayo*, 132 S. Ct. at 1294) (alterations in original).

Noting that the two stages involve “overlapping scrutiny of the content of the claims,” the Federal Circuit has described “the first-stage inquiry as looking at the ‘focus’ of the claims, their ‘character as a whole,’ and the second-stage inquiry (where reached) as looking more precisely at

what the claim elements add—specifically, whether, in the Supreme Court’s terms, they identify an ‘inventive concept’ in the application of the ineligible matter to which (by assumption at stage two) the claim is directed.” *Electric Power Grp, LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016).

Furthermore, the prohibition against patenting an abstract idea “cannot be circumvented by attempting to limit the use of the formula to a particular technological environment or adding insignificant postsolution activity.” *Bilski v. Kappos*, 561 U.S. 593, 610–11 (2010) (citation and internal quotation marks omitted); see *Electric Power*, 830 F.3d at 1354 (“[L]imiting the claims to the particular technological environment of power-grid monitoring is, without more, insufficient to transform them into patent-eligible applications of the abstract idea at their core.”).

1. *Step 1: Whether the claims are directed to an abstract idea*

The first prong of the *Alice* test requires us to determine whether the challenged claims are directed to an abstract idea. *Alice*, 134 S. Ct. at 2355. In determining whether a method or process claim recites an abstract idea, we must examine the claim as a whole. *Id.* at n. 3.

Claim 1 of the ’435 patent recites a method where a processor and memory that are programmed to “display[] a first interface” comprising a “first variable,” which is “a price of the item,” and in response to the selection of the “first variable,” to “display[] a second interface.” The second interface comprises fields and buttons including a “price field” and a “size field” both associated with the item to be traded and both of which are “adjustable,” “size up . . . and [] size down button[s],” which can be used to adjust the size to the desired size, “price up . . . and [] price down button[s],” which can be used to adjust the price to the desired size, “one or more numeric

buttons,” a button that can “submit[]” a trading command. Ex. 1001, 12:10–35. Independent claim 19 recites almost identical limitations as claim 1, but as an apparatus claim with a processor and memory programmed to perform the steps. Ex. 1001, 13:45–14:9. Claim 31 is very similar to claim 19, but lacks the up and down buttons for the price and size fields and includes the additional limitations that the price and size fields can be pre-populated with default prices and sizes, and highlighting the size field. *Id.* at 15:1–16:15. We do not discern any difference the variations in wording of the independent claims would have on our analysis of them, and Patent Owner does not argue that these differences compel different results for different independent claims. Thus, we consider claim 1 to be representative of independent claims 1 and 19. We discuss claim 31 separately.

Claim 1, as a whole, recites a sequence for displaying and submitting electronic versions of what used to be paper forms—i.e., using two interfaces—one displaying price information and the second comprising a detailed order form—to confirm or modify orders. This is essentially a computerized version of the age-old process of displaying prices and providing an order form for placing orders based on that price. Ex. 1026, 297; Ex. 1018, 2. Indeed, contrary to Patent Owner’s assertion that we are improperly distilling the claims, PO Resp. 21, it is only by assessing the claims as a whole that it becomes apparent that claim 1 is directed to placing and modifying an order and not on the scantily described graphical user interface. Merely “relying on a computer to perform routine tasks more quickly or more accurately is insufficient to render a claim patent eligible.” *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015) (citing *Alice*, 134 S. Ct. at 2359).

Relying on *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1334 (Fed. Cir. 2016), Patent Owner argues that the claims of the '435 patent are directed to “an improvement to computer functionality,” and hence, patent-eligible. PO Resp. 21–31. We disagree. The claims at issue here are much more akin to those considered by the Federal Circuit in *Apple Inc. v. Ameranth, Inc.*, 842 F.3d 1229 (Fed. Cir. 2016), *Affinity Labs of Texas v. DIRECTV, LLC*, 838 F.3d 1253, 1260 (Fed. Cir. 2016), and *Electric Power Group*, 830 F.3d 1350. As the court explained in *Electric Power Group*, *Enfish*

relied on the distinction made in *Alice* between, on one hand, computer-functionality improvements, and, on the other, uses of existing computers as tools in aid of processes focused on “abstract ideas” (in *Alice*, as in so many other § 101 cases, the abstract ideas being the creation and manipulation of legal obligations such as contracts involved in fundamental economic practices).

Elec. Power Grp., 830 F.3d at 1354. The court in *Electric Power Group* went on to explain that in *Enfish*, “the claims at issue focused not on asserted advances in uses to which existing computer capabilities could be put, but on a specific improvement—a particular database technique—in how computers could carry out one of their basic functions of storage and retrieval of data.” *Id.*

In *Ameranth*, claim 1 recited an information management and synchronous communications system for generating and transmitting menus in which a software application:

facilitates the generation of the second menu by allowing selection of catagories [sic] and items from the first menu [stored on said storage device and displayable in a window of said graphical user interface], addition of menu categories to the second menu, addition of menu items to the second menu and

assignment of parameters to items in the second menu using the graphical user interface of said operating system, said parameters being selected from the modifier and sub-modifier menus [stored on said data storage device and displayable in a window of said graphical user interface]

842 F.3d at 1234. The first menu is displayed to a user and another menu may be generated in response to the selections made. *Id.* The court found that “[t]he patents claim systems including menus with particular features. They do not claim a particular way of programming or designing the software to create menus that have those features, but instead claim the resulting systems.” *Id.* at 1241.

In *Affinity Labs*, the representative claim recited a broadcast system with a network based resource and an application running on a wireless cellular phone, where the application enabled the cellular telephone device:

to present a graphical user interface comprising at least a partial listing of available media sources on a display associated with the wireless cellular telephone device, wherein the listing includes a selectable item that enables user selection of the regional broadcasting channel;

to transmit a request for the regional broadcasting channel from the wireless cellular telephone device; and

to receive a streaming media signal in the wireless cellular telephone device....

838 F.3d at 1255–56. The court explained that “[t]he patent in this case is not directed to the solution of a ‘technological problem,’ . . . nor is it directed to an improvement in computer or network functionality.” *Id.* at 1262. Instead, the court determined that the patent “claim[ed] the general concept of out-of-region delivery of broadcast content through the use of conventional devices, without offering any technological means of effecting that concept.” *Id.*

Much like the claims in *Ameranth* and *Affinity Labs*, the claims of the '435 patent recite a result—displaying trading commands (and possibly price information) and a computerized order form that can be submitted to an electronic trading system—as opposed to an improvement in the functioning of the computer. In a manner similar to a second menu being displayed to the user after making a selection from a first menu in *Ameranth*, claim 1 recites the display of a “second interface” that allows data entry in response to receiving an input from the user. *See* Ex. 1001, 12:15–35. The claims next recite that the “second interface” has certain fields and buttons to receive data from the user. These data fields represent the essential blanks of any paper order form—price and size of the order. Tr. 26:20–27:15. Beyond the most generic computer interface buttons and fields (up/down arrows, data fields, numeric buttons, and confirmation buttons), the claims of the '435 patent do not recite, nor does the specification describe, features concerning computer functions associated with achieving these elements. Claim 1 further recites that selecting of certain buttons can change the data displayed in certain fields and that selecting another button submits the order. Ex. 1001, 12:25–37. The numeric buttons are the computer equivalents of any keypad or using a pen to enter data into a paper form and the submit button is the electronic equivalent of handing the form to the attendant.

Again, the claims of the '435 patent do not recite, nor does the specification describe, features concerning computer functions associated with achieving these elements. Indeed, aside from this modicum of detail about the particular graphical user interface elements, claim 1 of the '435 patent are similar to the claims at issue in *Affinity Labs* where the cellular

telephone and graphical user interface were “tools in the aid of a process focused on an abstract idea.” *Affinity Labs*, 838 F.3d at 1262. In this case, the computer is used as a tool to confirm and modify an order. Thus, unlike *Enfish*, claim 1 is not directed to an improvement to computer functionality or the way computers operate, but merely to the resulting system, i.e., to independently abstract ideas that use computers as tools. Comparing the claims at issue here to those considered in *Ameranth* and *Affinity Labs*, it is clear that these claims are the same type of broad functional claims directed to abstract ideas.

Indeed, Patent Owner’s contention that “[r]ather, the focus of the claims, when read in light of the specification, is ‘on the specific asserted improvement in computer capabilities,’ namely, the improved graphical user interface that provides a particular layout, configurable options, settings, and other features to allow a trader to use a pointing device to execute trades from tabular information more quickly, efficiently, and accurately,” PO Resp. 23, is belied by the claims themselves. To begin with, Patent Owner and its expert conceded that there is nothing recited in the claims about a “particular layout,” “configurable options” or “settings,” merely that a graphical user interface “can be configurable.” Tr. 17:9–21 (“The fact that it is configurable is not specifically recited, but what the [graphical user interface] allows is an interface that can be configurable...”); Ex. 1032, 58:3–59:10. Moreover, none of the independent claims recite a “pointing device.” Tr. 17:22–18:9 (“You’re right, the claims do not require an input by a pointer in and of themselves, but they enable the ability to do so.”). Our focus must be on the claims, not unclaimed features that could be added or are mentioned in the specification. See *Synopsis, Inc. v. Mentor Graphics*

Corp., 839 F.3d 1138, 1149 (Fed. Cir. 2016) (“The § 101 inquiry must focus on the language of the Asserted Claims themselves.”). On the contrary, as we explain above, we consider the claims at issue here to claim merely the use of a computerized data entry form, directly analogous to the long-used paper order slip, with an electronic trading system.

Finally, at the oral hearing, Patent Owner directed our attention to the Federal Circuit’s non-precedential opinion in *Trading Technologies International, Inc. v. CQG, Inc.*, 675 F. App’x 1001 (Fed. Cir. Jan. 18, 2017) (non-precedential). Tr. 24:1–12. Even if *Trading Technologies* were precedential, it is inapposite. Instead, Patent Owner’s claims resemble those claims that the district court and Federal Circuit in *Trading Technologies* distinguish as patent ineligible. *Compare Trading Techs. Int’l, Inc. v. CQG, Inc.*, No. 05-cv-4811, 2015 WL 774655 at *4 (N.D. Ill. Feb. 24, 2015) (noting “[i]f the claims simply provided for ‘setting, displaying, and selecting’ data information, CQG would be correct in its assessment that the claims are directed to an abstract idea”) with Ex. 1001, claim 1 (“display[ing] a first interface . . . ,” “in response to a selection of . . . [a] trading command[] . . . display[ing] a second interface” with “a price field in which a price . . . is adjustable,” “a size field in which the size . . . is adjustable,” “one or more numeric buttons [to adjust the size displayed in the size field],” “at least one button for confirming [one of the trading commands],” and “at least one second button for submitting [the second trading command] . . .”); see also *Trading Techs.*, 675 F. App’x at 1005 (“ineligible claims generally lack steps or limitations specific to a solution of a problem, or improvement in the functioning of technology”). A review of the district court’s and Federal Circuit’s discussion of the invention in

Trading Technologies provides further support for our understanding.

In *Trading Technologies*, the district court found that the claims are directed to solving a problem that existed with prior art GUIs, namely, that the best bid and best ask prices would change based on updates received from the market. There was a risk with the prior art GUIs that a trader would miss her intended price as a result of prices changing from under her pointer at the time she clicked on the price cell on the GUI.

Trading Techs., 2015 WL 774655 *4. Similarly, the Federal Circuit found

[t]he patents explain problems that arise when a trader attempts to enter an order at a particular price, but misses the price because the market moved before the order was entered and executed. It also sometimes occurred that trades were executed at different prices than intended, due to rapid market movement. This is the problem to which these patents are directed.

Trading Techs., 675 F. App'x at 1002–03.

To solve this problem, the alleged *Trading Technologies* invention keeps prices static in positions, and allows quantities at each price to change. *Trading Techs.*, 2015 WL 774655 at *4; *Trading Techs.*, 675 F. App'x at 1003 (noting “the system pairs orders with the static display of prices and prevents order entry at a changed price”). In particular, the district court found that these patents are directed to improvements in existing graphical user interface devices that have no “pre-electronic trading analog,” and recite more than “‘setting, displaying, and selecting’ data or information that is visible on the [graphical user interface] device.” *Trading Techs.*, 2015 WL 774655 at *4. The case here is different. Although Patent Owner strives to argue that the '435 patent solves the problem of electronic trading with a pointing device, this effort is not supported by the specification or the evidence.

For example, Patent Owner argues that “the claimed invention provides an improved *graphical user interface* that allows a trader to use a pointing device to execute trades from tabular information more quickly, efficiently, and accurately.” PO Resp. 22 (citing Ex. 1001, 1:66–2:2). Patent Owner submits that the claimed invention “by providing the ability to have configurable interfaces, default and preference settings, pointer warping, and other features” provides a system that “allows a trader to execute trades via a graphical user interface more efficiently and accurately compared to other prior art systems.” *Id.* Patent Owner’s expert goes even further to state that the “scope and novelty of the ’435 claims” lies in “providing a specific graphical user interface with a particular layout, configurable options, setting, and other features to allow a trader to use a pointing device to execute trades . . . quickly, efficiently, and accurately.” Ex. 2027 ¶ 22. Neither the claims nor the cited portion of the specification supports Patent Owner’s or its expert’s assertions.

To begin with, Patent Owner and its expert take great liberties in characterizing the problem and the solution. There is no mention in the claims or the specification about “tabular information” or “tables.” Neither Patent Owner nor its expert provides any explanation how it reaches this conclusion. Moreover, none of the independent claims requires a “pointing device.” Contrary to his declaration testimony about where the “scope and novelty” of the claims lies, none of the claims even requires the elements that Patent Owner even alleges are novel. Indeed, Mr. Molokhia admitted on cross examination that none of the claims requires any particular layout, that there is no requirement that the claimed that the interfaces be configurable, that none of the claims requires that the first or second

interface has a particular location, and that the first interface is not required to be a chart or graph. Ex. 1032, 58:3–59:10. Mr. Molokhia characterizes “market cell 100,” which corresponds to the “first interface” of the claims, as being “[a]t the core of the innovative system [of the ’435 patent].”

Ex. 2027 ¶ 23. But, according to the claims, the “first interface” can be merely two prices. Ex. 1001, 12:11–14. Thus, this case bears little resemblance to *Trading Technologies*. There is no allegedly novel, non-abstract feature like the “static price axis” of *Trading Technologies* in these claims. In addition, many of the features of the alleged invention that Patent Owner attempts to rely on are not even present in the claims. See 675 F. App’x at 1003.

Even if all the claims at issue did recite a “pointing device,” Patent Owner’s argument suffers from another flaw—the claims of the ’435 patent are at such a generic and abstract level that it is not clear how it solves any problem. The ’435 patent describes the alleged problems it solves at only the highest level. Indeed, the only specific problem with mouse-based trading identified in the prior art is that a trader would have “to physically move a mouse pointer from an indicator for a desired instrument, that is at some given point on a trading screen, to some other point on the screen where bidding/offering and buying/selling commands can be entered.” Ex. 1001, 1:53–58. Other than claim 11, whose pointer warping feature is discussed below, none of the claims even involve the purported solution, which the ’435 patent (and the parties) describe as “pointer warping,”² to the

² Claim 11 does not recite the term “pointer warping,” but we use it as a shorthand description for the automatic relocation of the pointer to a particular location. This is the term the specification uses for this feature

alleged shortcoming of the prior art. *See* Ex. 1001, 5:17–27. Thus, in contrast to *Trading Technologies*, the present claims bear almost no connection between the identified problem and any solution.

Yet, even if all the claims recited a “pointing device” and the “pointer warping” feature of some of claim 11, the claims would still be fundamentally different than the claims at issue in *Trading Technologies*. Here, the claims are no different than the pre-electronic trading paper order form. The pointer warping would be no different than any known method to direct the trader’s attention to certain portions of the paper order form. Nothing in the claims requires any particular location or configuration of the interfaces, so the claims are much broader and abstract than even this one alleged problem they identify. Unlike *Trading Technologies*, these claims do no more than attempt to claim displaying a price and offering an order form when the trader wants to place an order. This is no different than the age old idea of placing and modifying an order.

As for the other claims they suffer similar problems at the Step 1 inquiry. Claims 3–5 recite “automatically populating or automatically highlighting various fields with the price or size of the item,” claim 6 recites that “the default size, when highlighted in the size field, is adjustable from the default size to a desired size in response to selection of at least one numeric button of the one or more numeric buttons,” and claim 16 specifies “a sequential order of actions in response to selecting one or more of the selectable features of the [graphical user interface] which increases the speed and efficiency of [graphical user interface]-based trading.” PO Resp. 26–27.

generally. *See* Ex. 1001, 5:17–27

Patent Owner submits that these claims take the claims outside the realm of abstract ideas. *Id.* But specifying how and in what order certain data is to be displayed, without more, is still abstract. *See Elec. Power Grp.*, 830 F.3d at 1353–54 (explaining that collecting, analyzing, and displaying information is abstract).

As for the remaining claims, claims 2, 20, and 28 recite that the first interface can be displayed on a remote network device, claims 6, 7, 12, 13, 21, 24, 27, and 30 all recite various actions that can be performed with the buttons, claims 8, 9, 10, 14, 18, and 25 recite various buttons that can be placed on the interface, and claims 15, 22, 23, 26, and 29 recite pre-populating the fields of the second interface. As with the claims that Patent Owner argues separately, these claims merely specify how and in what order certain data are to be displayed, which without more, is still abstract. *See id.* (explaining that collecting, analyzing, and displaying information is abstract).

Finally, independent claim 31, which Patent Owner does not argue separately, includes the pre-population of the price and size field and also highlighting the pre-populated size field and allowing the pre-populated value to be adjusted. Ex. 1001, 16:4–12. Again, this type of highlighting and pre-populating data fields are still abstract. *See Elec. Power Grp.*, 830 F.3d at 1353–54.

In sum, on the complete record, we are persuaded that the challenged claims are directed to the abstract idea of confirming and/or modifying an order as part of the order placement process. Dec. 25.

2. *Step 2: Whether the claims recite an inventive concept*

After determining that the challenged claims are directed to patent-ineligible abstract ideas, “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*, 134 S. Ct. at 2355 (internal quotation marks omitted). The Supreme Court has “described step two of this analysis as a search for an ‘inventive concept’—i.e., an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself.” *Id.* (internal quotation marks omitted). At this stage, we “scrutinize the claims elements more microscopically.” *Elec. Power Grp.*, 830 F.3d at 1354.

“A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Alice*, 134 S. Ct. at 2357 (quoting *Mayo*, 132 S. Ct. at 1297). “This requires more than simply stating an abstract idea while adding the words ‘apply it’ or ‘apply it with a computer.’ Similarly, the prohibition on patenting an ineligible concept cannot be circumvented by limiting the use of an ineligible concept to a particular technological environment.” *Versata*, 793 F.3d at 1332 (citations omitted). To be clear, “[t]he introduction of a computer into the claims does not alter the analysis at *Mayo* step two.” *Alice*, 134 S. Ct. at 2357; *accord id.* at 2358 (“[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention. . . . Given the ubiquity of computers, wholly generic computer implementation is not generally the sort of additional featur[e] that provides any practical assurance that the process

is more than a drafting effort designed to monopolize the [abstract idea] itself.”) (citations and quotation marks omitted)). Otherwise, “an applicant could claim any principle of the physical or social sciences by reciting a computer system configured to implement the relevant concept.” *Id.* at 2359. Moreover, the mere recitation of generic computer components performing conventional functions is not enough. *See id.* at 2360 (“Nearly every computer will include a ‘communications controller’ and ‘data storage unit’ capable of performing the basic calculation, storage, and transmission functions required by the method claims.”).

Claim 1 of the ’435 patent recites “a processor,” “a computing device,” displaying a “first interface” with price information, receiving inputs from the user, displaying a “second interface” in response to the input that includes adjustable fields for prices and sizes of orders, a button for submitting commands, up and down buttons to change the size and price fields, numeric buttons, receiving a selection of the button, and submitting the order to the electronic trade system in response to the selection of the button. The ’435 patent, itself, discloses that electronic trading systems, computers, processors, memories, and displays were known. *See* Ex. 1001, 11:52–12:3; *see also* Ex. 1032, 46:22–47:14 (Mr. Molokhia testifying that the hardware was known).

The “first interface” can be as simple as displaying price information. Ex. 1001, 12:11–14. The use of computers to gather market information, display it to a trader and input trading commands were well-known. Ex. 1032, 19:1–10, 24:8–11.

The “second interface” is a graphical interface that is displayed in response to an input, e.g., a dialog window, and includes certain fields and

buttons. Ex. 1001, 12:15–35. The use of buttons, fields, and dialog or pop-up windows together with a mouse is entirely conventional. *Id.* at 1:20–59, 4:26–31; Tr. 29:20–30:25 (Patent Owner confirming that individual graphical interface elements are conventional); Ex. 1032. 33:1–40:5. Further, Petitioner demonstrates that the use of graphical user interface trading systems was well-known in the art. Pet. 39–40 (citing Ex. 1016³ (showing multi-screen computer graphical user interface for confirming trades); Ex. 1003 ¶¶ 25–38). This is confirmed by the Friesen reference,⁴ which was submitted by the Patent Owner in support of its motion to amend. See Ex. 2034, Fig. 3C (showing graph displaying prices and quantities), Figs. 3D–3E (pop-up windows for orders). The use of conventional graphical interfaces in this conventional way is nothing more than routine data gathering and does not transform the abstract idea into a patent-eligible invention. See *Elec. Power Grp.*, 830 F.3d at 1355; *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1348 (Fed. Cir. 2015) (use of forward and back buttons in web browser for filling out online forms conventional); *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1370 (Fed. Cir. 2011).

The use of a graphical user interface, a known way for a user to interact with the computer, does not change the generic nature of the computer. Merely reciting a generic computer and generic computer functions cannot transform a patent-ineligible abstract idea into a patent-eligible invention. *Alice*, 134 S. Ct. at 2358. Even limiting the input to using a pointer device, would not add anything to these claims because use

³ Patterson, U.S. Patent No. 5,797,002, issued Aug. 18, 1998.

⁴ Friesen, WO 01/16852 A2, published Mar. 8, 2001 (Ex. 2034).

of a pointer with a graphical interface was entirely conventional, routine, and known. Given the above, we determine that 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.

Moreover, considering all of the elements as an ordered combination, we determine that the combined elements also do not transform the nature of the claim into a patent-eligible application. Patent Owner contends that these claims are similar to the claims found patent eligible in *BASCOM Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016), because they are directed to a “non-conventional and non-generic arrangement” of elements. PO Resp. 49. Patent Owner argues that “the claimed solution of the ’435 patent utilizes a specialized graphical trading interface with a particular layout to allow a trader to use a pointing device to execute trades from tabular information.” *Id.* Patent Owner argues that “the claimed implementation is neither conventional nor generic.” *Id.* at 50. Patent Owner contends that its claims are unlike *Electric Power Group* because “the ’435 claims do not recite merely gathering and displaying trading information using conventional computer technology . . . [a]nd they do not purport to monopolize every way of gathering and displaying trading information of every way of gathering and displaying trading information or every way of using user interfaces for placing trading instructions.” *Id.* at 51–52. Instead, Patent Owner asserts that the challenged claims are “directed to an inventive device or technique for trading with a particular layout of elements and particular techniques, including alterable and selectable features, i.e., a specialized [graphical user interface] tool.” *Id.* at

52. Patent Owner further argues that we acknowledged that the claims were directed to a “new arrangement” of graphical components and a “particular arrangement and sequence of information,” Dec. 23–24, 28, and that “[t]his is precisely the type of ‘non-conventional and non-generic arrangement of known conventional pieces’ that satisfied the inventive-concept inquiry in *Bascom*.” *Id.* at 52–53.

We disagree. To begin with, as we explained above in our Step 1 discussion, there is nothing in the claims about “tabular data,” so Patent Owner’s repeated assertions regarding it in its arguments are unpersuasive. As for Patent Owner’s arguments that the claimed inventions in this case resembles that addressed in the Federal Circuit’s decision in *Bascom*, we disagree.

In *Bascom*, the Federal Circuit held that “the installation of a filtering tool at a specific location, remote from the end-users, with customizable filtering features specific to each end user” was an inventive concept sufficient to confer patent eligibility on claims directed to the abstract idea of “filtering content on the Internet.” *Id.* at 1348. The court explained that, “[b]y taking a prior art filter solution (one-size-fits-all filter at the ISP server) and making it more dynamic and efficient (providing individualized filtering at the ISP server), the claimed invention represents a software-based invention that improves the performance of the computer system itself.” *Id.* at 1351 (internal quotation marks and alterations omitted). Here, on the other hand, the claims describe using “a set of generic computer components,” *id.*, to allow the submission and modification of orders to an electronic trading system.

Moreover, the patent in *Bascom* did not merely move existing content filtering technology from local computers to the Internet, which “would not contain an inventive concept,” but “overc[a]me[] existing problems with other Internet filtering systems”—i.e., it solved the problem of “inflexible one-size-fits-all” remote filtering schemes (caused by simply moving filtering technology to the Internet) by enabling individualized filtering at the ISP server. *Id.* at 1350–51. The patent in *Bascom* did not merely rely “on generic computer components using conventional computer activities.” *Id.* at 1351. Rather, it included “‘something more’ than the performance of ‘well-understood, routine, and conventional activities previously known to the industry.’” *Amdocs (Israel) Limited v. Openet Telecom, Inc.*, 841 F.3d 1288, 1301 (Fed. Cir. 2016) (quoting *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343, 1347–48 (Fed. Cir. 2014)).

Although the ’435 patent purports to solve problems with prior art graphical interfaces, as we discussed above in the Step 1 analysis, none of that is reflected in the independent claims. The claims here simply recite conventional, generic graphical user interface technology—information displays, pop-up windows, number fields, buttons—and say, in effect, use this conventional and generic graphical user interface technology with an electronic trading system.

As we explained above, the patent describes only vague, non-specific, and unquantified problems with “mouse-based interfaces”—primarily, that mouse-based trading interfaces are allegedly slower and “less efficient” than keyboard-based trading interfaces. *See* Ex. 1001, 1:29–59. Indeed, the only specific problem identified in the Background of the Invention is that traders

were “forced to physically move a mouse pointer from an indicator for a desired instrument, that is at some given point on a trading screen, to some other point on the screen where bidding/offering and buying/selling commands can be entered.” *Id.* at 1:50–59. However, the alleged solution claimed in the independent claims bears no relation to that problem—the “first interface” can be keyboard-based, there is no requirement that a mouse be used, there is no particular layout or arrangement recited. It is unclear how the first and second interfaces address the problems of mouse-based trading at all. Indeed, there is nothing in the specification about how offering a “second interface” with generic fields and buttons *by itself* solves any of the problems identified. At best, Patent Owner contends that second interface “enables” the solution, because it allows the further features that allegedly solve these problems to be offered. *See* Ex. 1001, 2:2–7. But none of those features are found in the independent claims. We decline to use generic computer components, such as a graphical interface, as hooks to pull assorted unclaimed features in from the specification.

The claims here are “not directed to a specific improvement in computer functionality.” *In re TLI Communications LLC Patent Litigation*, 823 F.3d 607, 612 (Fed. Cir. 2016). “Rather, [they are] directed to the use of conventional or generic technology in a nascent but well-known environment, without any claim that the invention reflects an inventive solution to any problem presented by combining the two.” *Id.*

Patent Owner quotes from our Decision to Institute saying we concluded that the claims are a “particular arrangement of elements” as was found sufficient in *Bascom*. PO Resp. 52–53. We disagree. First, *Bascom* did not hold that merely having a “particular arrangement of elements” was

sufficient to satisfy Step 2 of *Alice*. Instead, *Bascom* held that inventive concept could be found in a *non-conventional and non-generic arrangement* of conventional elements. *Bascom*, 827 F.3d at 1350. The record here shows that the claimed arrangement is entirely conventional. Graphical user interfaces have long been able to display data, such as numbers, and have long provided pop-up windows that provide the ability to input information. This arrangement is entirely conventional and generic. Patent Owner's claims are merely directed to using this conventional and generic arrangement in electronic trading. The mere fact that the claims recite additional specific generic elements of a conventional graphical user interface is not the type of particular arrangement that can transform an abstract idea into a patentable one. This is the type of artful drafting that *Alice* warned against. See *Intellectual Ventures I LLC v. Capital One Bank*, 792 F.3d 1363, 1370–71 (Fed. Cir. 2015) (“Steps that do nothing more than spell out what it means to ‘apply it on a computer’ cannot confer patent eligibility.”); *Alice*, 134 S. Ct. at 2359 (warning against a § 101 analysis that turns on the draftsman's art). Patent Owner cannot turn claims directed to the abstract idea of using creating and modify an order for a trade into patent-eligible subject matter by merely spelling out in finer and finer detail conventional and generic elements of a graphical user interface.

Second, in view of a full record, we disagree that claims even recite a “particular arrangement” as we, based on the preliminary record, stated in our Decision. As Mr. Molokhia testified, the claims of the '435 patent do not require any particular layout, configuration, or location. Ex. 1032, 58:3–59:10. Moreover, the Friesen reference demonstrates that displaying trading data (a first interface) and providing pop-up dialog boxes for entry of trade

information (a second interface) were known in the art, and conventional arrangements of known graphical interface elements. *See* Ex. 2034, Figs. 3B, 3D, 3E. Thus, rather than a “particular arrangement” the claims, at best, recite a generic arrangement of known graphical user interface elements.

These generic graphical user interface elements (buttons, fields, interfaces) do not purport to improve the functioning of the computer itself. *See buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1354 (Fed. Cir. 2014). These elements in combination simply represent the conventional and generic implementation of a graphical user interface version of a pre-computer price display and paper order form that have long been used to confirm and modify an order. These claims merely represent an effort to apply this abstract idea using a graphical user interface in an electronic trading system environment. As the court explained in *Electric Power Group*, “limiting the claims to [a] particular technological environment . . . is, without more, insufficient to transform them into patent-eligible applications of the abstract idea at their core.” *Elec. Power Grp.*, 830 F.3d at 1354; *see also Alice*, 134 S. Ct. at 2358 (holding that neither “attempting to limit the use of [the idea] to a particular environment” nor a “wholly generic computer implementation” is sufficient). The fact that these conventional technologies are used in an electronic trading system does not alone transform them into patent-eligible subject matter.

Recent cases where courts have found computer-based claims eligible illustrate why we conclude that these claims fail step 2 of the *Alice* inquiry. Unlike the claimed combination of elements in *Enfish* or *DDR Holdings v. LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014), the claimed apparatus and method of the ’435 patent combines the claim elements

according to their known functions to achieve routine and conventional results. *See Enfish*, 822 F.3d at 1336 (“In this case, however, the plain focus of the claims is on an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity.”); *DDR Holdings*, 773 F.3d at 1257–58 (finding a computer-implemented method patent eligible where the claims recite a specific manipulation of a general-purpose computer such that the claims do not rely on a “computer network operating in its normal, expected manner”). We are not persuaded that the combination of the claimed elements transforms the nature of the claim into a patent-eligible application.

This conclusion is further supported by the recent non-precedential decision of the Federal Circuit in *Trading Technologies*. There, the Federal Circuit agreed with the district court’s finding that the “static price index” as “an inventive concept that allows trader to more efficiently and accurately place trades using this electronic trading system.” *Trading Techs.*, 675 F. App’x at 1004. The court found “that the specific structure and concordant functionality of the graphical user interface are removed from abstract ideas, as compared to conventional computer implementations of known procedures.” *Id.* The court contrasted the specific structure in *Trading Technologies* with cases where “ineligible claims generally lack steps or limitations specific to a solution of a problem, or improvement in the functioning of technology.” *Id.* at 1005. Here, the claims fall more neatly into the situation described in *Trading Technologies* as ineligible claims. Instead of a specific structure with “no pre-electronic trading analog,” the claims recite a generic, conventional graphical user interface similar to the pre-electronic trading price display and paper order form. Moreover, as we

have discussed, there are insufficient steps or limitations specific to a solution of a problem or improvements in technology. Indeed, the alleged improvement in mouse-based trading is entirely belied by the fact that none of the independent claims has a requirement that a mouse or other pointer based device even be used. Rather, these claims merely attempt to take the pre-electronic idea of confirming and modifying an order and implement it in an electronic trading system using conventional graphical user interface elements. But even if the claims were limited to a pointer device, the lack of any specific layout beyond the recitation of generic and conventional graphical interface elements distinguishes this from *Trading Technologies* and its allegedly new approach to electronic trading. Instead, the use of conventional and generic elements in a way that mimics the pre-electronic trading analog, such as here, is a situation that *Trading Technologies* identified as lacking inventive concept. *Id.*

Patent Owner argues that certain dependent claims are separately patent-eligible. PO Resp. 58–61. First, Patent Owner argues that claim 11 contains an “inventive concept.” *Id.* at 58–59. Claim 11 depends from claim 1 and additionally recites “automatically repositioning, by the processor, a cursor in the second interface such that the cursor is positioned over the first button.” Ex. 1001, 13:5–8. Patent Owner argues that specification identifies this feature as increasing the speed of entry. *Id.* We disagree that “pointer warping” adds anything more to these claims. The evidence shows that “pointer warping” was not just known in the art, but it was a longtime built-in feature of graphical user interfaces, such as X Windows. Ex. 1031, 538–39. This evidence demonstrates that this a conventional and generic feature of graphical user interfaces. *See id.*

Indeed, the specification provides no details how pointer warping is technologically implemented. *See* Ex. 1001, 5:17–33. Thus, we determine that this feature does not add inventive concept to these otherwise abstract claims. *See Amaranth*, 842 F.3d at 1244 (finding use of conventional handwriting and voice capture technologies do not add inventive concept); *Content Extraction*, 776 F.3d at 1348 (finding a recitation of the use of “existing scanning and processing technology to recognize and store data from specific data fields such as amounts, addresses, and dates” did not amount to significantly more than the “abstract idea of recognizing and storing information from hard copy documents using a scanner and a computer”).

Second, Patent Owner argues that dependent claims 3 and 4 independently patent eligible because they recite additional features that show inventive concept. PO Resp. 59–61. Dependent claim 3 recites in relevant part “automatically populating, by the processor, the price field with the price of the item.” Ex. 1001, 12:44–46. Dependent claim 4 recites “automatically populating, by the processor, the size field with a default size of the item.” *Id.* at 12:47–49. Patent Owner submits that “[i]n the context of an electronic trading system, the pre-population of key fields, such as price, offer a significant speed advantage over systems that require a trader to type values into empty fields.” PO Resp. 59. Patent Owner argues that pre-populating the fields “eliminate[s] the need for a second input device (e.g., a physical keyboard) and improve the speed, efficiency, and accuracy with which trade parameters can be modified using only a pointing device.” *Id.* at 60. Patent Owner raises similar arguments with respect to claim 4. *Id.*

We disagree that pre-populating the fields adds any inventive concept to these claims. To begin with, conventional order forms can also have pre-populated fields, so this is not the case of the technology having “no pre-electronic trading analog.” Moreover, Mr. Molokhia’s testimony and the evidence submitted shows that pre-populating the fields of graphical interface was already well-known in graphical interfaces and in the field of electronic trading, specifically. *See* Ex. 1032, 29:6–31:13, 32:22–25 (admitting that the use of fields to input data and fields with pre-populated entries was known in the field); Ex. 2034, 30:27–31:9 (discussing pre-populating the electronic form), 31:15–32:9; Ex. 1016, 16:26–28 (noting time of request broker’s badge number are automatically stamped on an electronic form). The specification describes the feature, Ex. 1001, 5:57–64, but provides no disclosure of how this would be technologically implemented. *See Amaranth*, 842 F.3d at 1244 (finding failure to disclose any technological details in specification for feature indicated that they were conventional). Indeed, contrary to Patent Owner’s assertion that this feature “eliminate[s] the need for a second input device (e.g., a physical keyboard),” PO Resp. 60, the specification’s discussion of this feature explicitly mentions using a command line interface with it pre-populated fields, Ex. 1001, 6:28–40 (noting features can be used with either a command line interface); Ex. 2024, 4 (definition of command line interface, which notes that in command line interfaces commands are typed). This evidence suggests that this feature does not provide the advantages that Patent Owner asserts. Thus, we determine that claims 3 and 4 also lack inventive concept.

Patent Owner argues that dependent claim 7 recites additional features that show inventive concept. PO Resp. 61. Claim 7 depends from claim 4

and additionally recites that “the size displayed in the size field is adjustable from the default size to a desired size.” Ex. 1001, 12:58–59. Patent Owner argues that this feature “further improve[s] the speed and efficiency of entering orders by relieving the user of manually entering a size value into the size field,” and is “a distinct technical advantage over conventional trading systems that did require the user to enter a size manually for each entry (e.g., via a keyboard).” PO Resp. 61. Patent Owner argues that the features of claim 7 “eliminate the need for a second input device (e.g., a keyboard) and improve the speed, efficiency, and accuracy with which trade parameters can be modified using only a pointing device.” *Id.* We disagree. Merely being able to adjust pre-populated data fields is not in any way non-conventional or non-generic. As we discussed above, pre-populating data fields in a graphical user interface was known, and the use of adjustable data fields was known. The benefits that Patent Owner attributes to this feature is no different than pre-populating the data fields. Thus, we disagree that being able to adjust the pre-populated fields adds anything to the abstract idea of the claims from which claim 7 depends.

Finally, we note that independent claim 31, which Patent Owner did not argue separately does not have anything that would be considered an “inventive concept.” Claim 31 is similar to claim 1, but also recites that the price and size fields are “automatically populate[d]” and the default size is “automatically highlight[ed]” and the default size can be adjusted using the numeric buttons. Ex. 1001, 15:1–16:15. The use of color for emphasis has long been known in a wide variety of fields. *See In re Ockman*, 833 F.2d 1023 (Fed. Cir. 1987) (unpublished) (finding use of color for emphasis in drawings ineligible and collecting cases the patent eligibility of the use of

color). Moreover, color's use was well-known in electronic trading. The of-record Friesen and Belden⁵ references both discuss the use of color for emphasis. *See, e.g.*, Ex. 2034, 12:31–13:2; Ex. 1021 ¶¶ 61, 71. The specification describes the feature, Ex. 1001, 7:61–66, but provides no disclosure of how this would be technologically implemented. *See Amaranth*, 842 F.3d at 1244 (finding failure to disclose any technological details in specification for feature indicated that they were conventional). As we discussed above with respect to claim 7, pre-populating fields and allowing adjustment of pre-populated fields are conventional and generic graphical interface features and do not add any inventive concept. We further determine that the addition of highlighting, another entirely conventional and generic feature, to those features is still not enough to take these claims outside the realm of abstract ideas. Thus, we determine that claim 31 also lacks inventive concept.

We have analyzed the remaining challenged claims, which Patent Owner does not argue separately, and conclude that, while narrower than the claims from which they depend, none of the remaining claims includes limitations sufficient to transform the abstract idea of claims 1–56 into a patent-eligible invention. *See Content Extraction*, 776 F.3d at 1349; *buySAFE*, 765 F.3d at 1355. In sum, Petitioner has shown, by a preponderance of the evidence, that each of the challenged claims recites an abstract idea, and the generic computer components recited in those claims do not transform the claims 1–56 into patent-eligible applications of that idea.

⁵ Belden, EP 0 388 162 A2, published Sept. 9, 1990.

III. PATENT OWNER'S MOTION TO AMEND

Patent Owner filed a Contingent Motion to Amend, requesting substitution of claims 32–39 in the event claims 1–3, 8–10, 13, 14, 17, and 18 of the '435 patent were found to be unpatentable. Mot. Amend 1. As noted previously, we have determined that Petitioner has demonstrated by a preponderance of the evidence that claims 1–3, 8–10, 13, 14, 17, and 18 are unpatentable. Accordingly, we consider Patent Owner's Motion to Amend.

A. *Proposed Amended Claims*

Patent Owner proposes amending independent claim 1 as new independent claim 32. Proposed amended claims 33–39 are identical to claims 2, 8–10, 13, 14, and 18, respectively, and merely change the dependencies, so that these claims depend from proposed independent claim 32, instead of original independent claim 1. New independent claim 32 is reproduced below (the new language added to claim 1 is emphasized).

32. (Substitute for original claim 1, if found unpatentable) A computer implemented method, comprising:

displaying, by a processor of a computing device, a first interface that comprises a first variable associated with trading an item, in which the first variable comprises a price of the item;

displaying, by the processor, data in a second interface in response to a selection of the first variable at the first interface, in which the second interface comprises:

a price field, in which a price displayed in the price field is adjustable;

a size field, in which a size displayed in the size field is adjustable, and in which the price and the size are associated with trading the item;

a first button, in which the first button, when selected causes a trading command to be submitted;

a size up button and a size down button, in which the size up button when selected increases the size displayed in the size field and

in which the size down button when selected decreases the size displayed in the size field;

a price up button and a price down button, in which the price up button when selected increases the price displayed in the price field

and in which the price down button when selected decreases the price displayed in the price field; and

one or more numeric buttons;

automatically populating, by the processor, the price field with the price of the item;

adjusting, by the processor, the price displayed in the price field to a desired price, in response to at least one of:

a selection of the price up button; or

a selection of the price down button;

receiving, by the processor, a selection of the first button; and

submitting, by the processor, the trading command for execution in response to receiving the selection.

Mot. Amend, App'x, i–ii.

These claim amendments, in effect, incorporate the limitations from original claims 3 and 17 into original claim 1. The limitations from these four dependent claims are slightly modified to combine them all into the existing claim, but we do not understand those modifications to meaningfully alter their scope. We discuss the patentability of these proposed amended claims below. Because we find that a preponderance of the evidence demonstrates that these claims are directed to patent-ineligible subject matter under § 101, we do not need to reach the other requirements of a motion to amend or other grounds of unpatentability. Moreover, we

determine that even if we placed the burden with Petitioner, we find that burden has been met.

B. Are the Proposed Amended Claims Patentable Under § 101?

1. Step 1: Whether the claims are directed to an abstract idea

Patent Owner contends that the proposed amended claims are not directed to an abstract idea, but are directed to a specialized graphical trading interface. Mot. Amend. 8–13; Reply Mot. Amend 3–5. Petitioner argues that proposed amended claims suffer from the same defects as the original claims discussed above. See Opp. Mot. Amend 5–13.

The only substantive amendments made to the claims are the addition of a limitation for pre-populating the price field, and an explicit limitation requiring that the adjustment of the price field occur using the up and down arrows. As we discussed above, allowing pre-population of data fields and modification of data fields using up and down arrows was known and does not alter the fact that these claims are directed to the pre-electronic analog of a paper order form used as part of the traditional order confirmation and modification process. As we explained above, the original claims already recited the up and down arrows to modify the price and size fields and this limitation only slightly narrows the claim to using those arrows, which were already present in the claim. As we discussed above, those up and down price arrows did not alter our conclusion that the claims are directed to the abstract idea of “[c]onfirming and/or modifying an order as part of the order placement process.” Merely, reciting that the already present arrows are used, does not limit the claim in any meaningful way. The explicit use of the arrows and pre-populating a data field are simply specifying how and in what order certain data are to be displayed, which without more, is still

abstract. *See Elec. Power Grp.*, 830 F.3d at 1353–54 (explaining that collecting, analyzing, and displaying information is abstract). Even considering them together, we agree with Petitioner that they represent merely a computerized version of pre-electronic trading concepts and, much like *Ameranth* “[t]he patents claim systems including menus with particular features. They do not claim a particular way of programming or designing the software to create menus that have those features, but instead claim the resulting systems.” *See Amaranth*, 842 F.3d at 1241; *see also Affinity Labs*, 838 F.3d at 1262 (claims abstract where the alleged technological features are merely “tools in the aid of a process focused on an abstract idea”). Thus, we agree with Petitioner that the amended claims remain directed to the abstract idea of confirming and/or modifying an order as part of the order placement process.

2. *Step 2: Whether the claims recite an inventive concept*

Patent Owner further argues that the proposed amended claims contain significantly more than just the abstract idea of confirming or modifying an order or collecting and displaying information to satisfy the inventive-concept requirement of *Alice* step-two. Mot. Amend 13–15; Reply Mot. Amend 5–7. Petitioner argues that the proposed amended claims lack inventive concept and are patent ineligible. Opp. Mot. Amend 13–16. We agree with Petitioner that the amended claims do not recite an inventive concept.

As we discussed above in the *Alice* Step 2 inquiry for the original claims, use of the up and down arrows to adjust data fields and the use of pre-populated data fields are conventional, generic, and known technologies that do not, either by themselves or together with the other elements of the

claims, add anything more to the abstract idea recited in the claims. *See Elec. Power Grp.*, 830 F.3d at 1354; *see also Alice*, 134 S. Ct. at 2358 (holding that neither “attempting to limit the use of [the idea] to a particular environment” nor a “wholly generic computer implementation” is sufficient). Although these claims are slightly narrower than the original claims in that they are limited explicitly using the up and down buttons to adjust the price and size and pre-populating the price field, such limitations are entirely conventional and generic with a graphical interface. *Internet Patents*, 790 F.3d at 1348 (use of forward and back buttons in web browser for filling out online forms conventional); *CyberSource*, 654 F.3d at 1370. These additional limitations represent merely more conventional elements of a graphical user interface. These limitations do not change the abstract character of these claims and their effort to claim confirming and modifying an order. As for *Trading Technologies*, as we explained above, we do not agree that it is applicable to this case. This case represents an entirely conventional and generic graphical interface used in a conventional way to implement the pre-electronic trading analog of a paper order form. *Trading Technologies* has no application to even these amended claims. In sum, we agree with Petitioner that each of the amended claims recites an abstract idea, and the generic computer components recited in those claims do not transform the claims into patent-eligible applications of that idea.

C. Conclusion

Because we conclude the amended claims would still be directed to patent ineligible subject matter under § 101, we deny Patent Owner’s motion to amend.

IV. PETITIONER'S MOTION TO EXCLUDE

Petitioner moves to exclude from the record Exhibit 2026 and paragraphs 59–97 of Mr. Molokhia's Declaration (Exhibit 2027). Mot. Exclude 1. With respect to Exhibit 2026, Petitioner argues that the exhibit is not relevant under Federal Rules of Evidence 401 and 402, would lead to undue prejudice under Federal Rule of Evidence 403, and is inadmissible hearsay under Federal Rule of Evidence 802. Mot. Exclude 2–3. Patent Owner argues that the testimony is relevant, not prejudicial, and not hearsay. Opp. Exclude 3–8. We did not rely on Exhibit 2026, so we *dismiss* the motion to exclude as *moot* insofar as it applies to Exhibit 2026.

With respect to paragraphs 59–97 of Exhibit 2027, Petitioner argues that they should be excluded under Fed. R. Evid. 702 and as “inadmissible conclusions of law.” Mot. Exclude 3. Petitioner argues that Mr. Molokhia fails to provide any underlying facts or data for his conclusions that the amended claims are not obvious. *Id.* at 5. Petitioner contends that “[w]ithout sufficient facts or data to support Mr. Molokhia's opinion, such testimony stands as conclusory and unreliable, and thus inadmissible under F.R.E. 702 in view of the Supreme Court's holdings in *Daubert* and *Kumho*.” *Id.* at 6. We disagree with Petitioner's argument that Mr. Molokhia's testimony should be excluded. We have reviewed Mr. Molokhia's testimony and find that although phrased at times as the ultimate legal issue of obviousness, the bulk of his testimony goes to the underlying factual issues of obviousness. To the extent that the reasoning provided by Mr. Molokhia is insufficient, Petitioner's arguments go more to the weight that should be given the testimony than its admissibility. See *Microfinancial, Inc. v. Premier Holidays Int'l, Inc.*, 385 F.3d 72, 81 (1st Cir.

2004) (“When the factual underpinning of an expert’s opinion is weak, it is a matter affecting the weight and credibility of the testimony—a question to be resolved by the [factfinder].”). Thus, we *deny* Petitioner’s motion to exclude paragraphs 59–97 of Exhibit 2027.

V. CONCLUSION

Petitioner has demonstrated, by a preponderance of the evidence, that claims 1–31 of the ’435 patent are unpatentable as directed to non-statutory subject matter. Patent Owner failed to show entitlement to relief requested in its motion to amend, for at least the reason that it failed to show that the proposed amended claims are patentable, so we *deny* Patent Owner’s motion to amend the claims. Finally, we *dismiss-as-moot-in-part* and *deny-in-part* Petitioner’s Motion to Exclude.

VI. ORDER

For the reasons given, it is

ORDERED that, based on a preponderance of the evidence, claims 1–31 of the ’435 patent are held unpatentable;

FURTHER ORDERED that Patent Owner’s Motion to Amend is *denied*;

FURTHER ORDERED that Petitioner’s Motion to exclude is *dismissed-as-moot-in-part* and *denied-in-part*;

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

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