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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ARI STUDNITZER, JAMES W. FARRELL,
PAUL J. CALLAWAY, BARRY L. GALSTER, and
PEARCE PECK-WALDEN

Appeal 2018-002186
Application 13/834,891¹
Technology Center 3600

Before BRADLEY W. BAUMEISTER, IRVIN E. BRANCH, and
PHILLIP A. BENNETT, *Administrative Patent Judges*.

BENNETT, *Administrative Patent Judge*.

DECISION ON APPEAL
STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner’s final rejection of claims 1–5 and 11–17. Claims 6–10 and 18–20 have been cancelled. Claims 21–27 were withdrawn as non-elected in response to a restriction requirement. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ Appellants’ Brief (“App. Br.”) identifies Chicago Mercantile Exchange, Inc. as the real party in interest. App. Br. 1.

CLAIMED SUBJECT MATTER

The claims are directed to a trade matching platform with variable pricing based on clearing relationships. Spec., Title. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method comprising:
 - providing client-side, computer-executable instructions to a remote user computer for execution by the remote user computer;
 - receiving an enhanced order for a financial instrument, wherein the enhanced order comprises a clearing counter-party (CCP) attribute identifying at least a third clearinghouse and a fourth clearinghouse;
 - retrieving settings, by a server-side computer processor, from a user data store, wherein the settings comprise:
 - a first indication of one or more of a plurality of clearinghouses from which prices are non-actionable but viewable, wherein the first indication identifies at least a first clearinghouse;
 - a second indication of one or more of the plurality of clearinghouses restricted from the user, wherein the second indication identifies at least a second clearinghouse; and
 - a third indication of one or more of the plurality of clearinghouses from which prices are viewable and actionable, wherein the third indication identifies at least the third clearinghouse and the fourth clearinghouse;
 - determining, by the computer processor, that the CCP attribute of the enhanced order does not identify the first clearinghouse;
 - determining, by the computer processor, that the CCP attribute of the enhanced order does not identify the second clearinghouse;
 - sending, by the computer processor, the enhanced order to a matching engine module, wherein the matching engine module matches the enhanced order;

blocking, by the computer processor, the matched enhanced order from being sent to the first clearinghouse and the second clearinghouse;

sending, by the computer processor, the matched enhanced order to the fourth clearinghouse;

removing, by the computer processor, the CCP attribute from the matched enhanced order for backwards compatibility before sending it to the third clearinghouse;

receiving, from the third clearinghouse and the fourth clearinghouse, a confirmation that the matched enhanced order is cleared and a price of the financial instrument at the respective clearinghouse;

generating, by the computer processor, information comprising at least a part of the plurality of prices of the financial instrument with respect to different clearinghouses;

formatting the information in a first style for prices received from at least the first clearinghouse identified in the first indication, wherein the first style comprises graying out of portions such that they are viewable but non-actionable;

formatting the information in a second style for prices received from at least the second clearinghouse identified in the second indication, wherein the second style comprises blacking out portions such that they are not viewable; and

sending, by the computer processor, a message to a user, wherein the message comprises the formatted information generated by the computer processor comprising a plurality of prices of the financial instrument with respect to different clearinghouses and is configured to display on the remote user computer,

wherein the formatted information causes the remote user computer, which is executing the client-side computer-executable instructions, to automatically render on a display of the remote user computer a graphical user interface comprising the first style and the second style such the grayed out portions of the information are viewable by a user, but blocking user requests for an action on the prices in those grayed out portions.

App. Br. 23–24 (Claims Appendix).

REJECTION

Claims 1–5 and 11–17 are rejected under 35 U.S.C. § 101 as being directed to ineligible subject matter. Final Act. 6–15.

ANALYSIS

Standard for Patent Eligibility

In issues involving subject matter eligibility, the Supreme Court applies a two-step test, as set forth in *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208 (2014). The Supreme Court instructs us to “first determine whether the claims at issue are directed to a patent-ineligible concept,” *id.* at 217, and, in this case, the inquiry centers on whether the claims are directed to an abstract idea. If the initial threshold is met, we then move to the second step, in which 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, 79, 78 (2012)). The Supreme Court describes the second step 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.* (quoting *Mayo*, 566 U.S. at 72–73).

The USPTO recently published revised guidance on the application of § 101. USPTO’s January 7, 2019 Memorandum, *2019 Revised Patent Subject Matter Eligibility Guidance* (“Memorandum”). Under that guidance, we first look to whether the claim recites:

- (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)).

See Memorandum, 84 Fed. Reg. at 52–55.

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

- (3) adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or
- (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

See Memorandum, 84 Fed. Reg. at 56.

Examiner’s Findings and Conclusion

In the first step of the *Alice* inquiry, the Examiner determines the claims are directed to a combination of abstract ideas. Specifically, the Examiner finds the claims are directed to “trade matching [] with variable pricing based on clearing houses relationships” which is an abstract idea.

Final Act. 7. The Examiner further determines:

The concept of matching the received order, send[ing] matched order to identified clearinghouse as per the pre-defined settings of the data store for clearance and settlement of the order, and pricing the matched order of a financial instrument with respect to identified clearing houses is a fundamental economic practice[,], which has been found by the courts to be an abstract

idea[], similar to hedging in *Bilski* and mitigating settlement risk in *Alice*.

Final Act. 10 (emphases omitted).

At *Alice* step 2, the Examiner determines the claims do not recite elements sufficient to amount to significantly more than the abstract idea because:

The only additional limitations in the claim relate to computerization of pricing of matched order of the financial instrument based on transmission of the matched order to the identified clearinghouses in the pre-defined settings of the data store, receiving confirmation of clearance of matched order with price of the financial instrument at the respective identified clearinghouses and generating price information of the financial instrument with respect to different clearinghouses in a first or a second style format as indicated in pre-defined settings for the specific clearinghouses. The claims as recited simply consist[] of “transmission of matched order to clearinghouses identified in predefined settings and transmission of message with price information of financial instrument with respect to identified clearinghouses in format identified in the predefined settings”.

Final Act. 12–13.

The Examiner further finds the claimed limitations are conventional and can be performed on a generic computer:

The trade matching platform with variable pricing based on clearing relationships would require a processor and memory in order to perform basic computer functions of accepting user input, retrieving processing information from a data stores, manipulating that information and displaying the results. These components are not explicitly recited and therefore must be construed at the highest level of generality. The interface is also recited at a high level of generality with the only required function of displaying message comprising pricing information of the financial instrument, which is a well-known routine function of interfaces. Further, the memory/data store performs

only its basic function of storing information, which is common to all databases. Thus, the recited generic computer components perform no more than their basic computer functions. These additional elements are well-understood, routine and conventional limitations that amount to mere instructions to implement the abstract idea of generating message with price of the financial instrument in specified format at the respective identified clearinghouses on a computer. Taking these computer limitations as an ordered combination adds nothing that is not already present when the elements are taken individually.

Final Act. 13–14.

Appellants' Contentions

Appellants present several arguments in favor of eligibility. First, Appellants argue the claims are eligible in view of *Amdocs (Isr.) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288 (Fed. Cir. 2016). Appellants contend “the precedential *Amdocs* decision closely parallels the subject matter in [the] claims at issue in this appeal and strongly suggests the claims to be patent eligible.” App. Br. 11. More specifically, Appellants argue the claims “expressly recite an ‘enhancement’ limitation” similar to the claims in *Amdocs*, and also recite other similar features such as “a filtering limitation” and backwards compatibility via “‘removing’ the CCP attribute when necessary . . . with some clearinghouses.” App. Br. 12.

Appellants further contend the claims are not directed to an abstract idea because:

[T]he Office Action improperly equates claims 1 and 11 to the patent claims in *Alice*, which the SCOTUS found were directed to the basic concept of mitigating settlement risk without significantly more, thus a fundamental economic principle. However, unlike the claims in *Alice*, claims 1 and 11 recite a method directly tied to a specific computer system arrangement

with specific CCP attributes in an enhanced order that provide a technological solution to the problem of backwards compatibility in a computer network system, as well as controlling/limiting user access to particular computer networks. In *Alice*, the SCOTUS held th[ose] claims to be patent ineligible because they recited an abstract idea and simply required to “apply it.” Meanwhile, Applicants’ claims 1 and 11 are not directed to a fundamental economic practice because they recite specific details about novel and inventive inputs that are collectively used to provide a technological solution to an existing problem with connected computer networks. In contrast to the “long prevalent” subject matter referenced in [*Alice*], the elements of claims 1 and 11 are instead directed towards a patent-eligible technological system involving several computer network systems.

App. Br. 13–14.

Appellants also argue the claims are similar to those found eligible in *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016) because:

Applicants’ claims recite patent eligible features with sufficient specificity and not merely at a higher level of generality. As explained above, Applicants’ claims 1 and 11 recite removing a CCP attribute from an enhanced order to provide backwards compatibility for particular computer networks, while blocking the transmission of enhanced orders to other computer networks. Moreover, claim 1 recites causing a particular display of formatted information to be automatically rendered a user’s remote computing device such that user access to particular data is secured/restricted.

App. Br. 16.

Appellants also assert their claims compare favorably to those found eligible in *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016) because “[a]pplying the *McRO* holding to Applicants’ claims, it is clear that Applicants’ claims do not wholly preempt any particular technological field” and “[a]s the *McRo* court found to be

persuasive, the preemption analysis here also favors patent eligibility.” App. Br. 19.

Appellants also assert the claims are patent-eligible under *Alice* step 2. App. Br. 18–20. Specifically, Appellants argue the Federal Circuit’s decision in *BASCOM Global Internet Servs. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016) supports a finding that the claims supply an inventive concept under the second step of the *Alice* inquiry. App. Br. 19. Appellants assert that similar to the eligible claims in *Bascom*, the claims under appeal “recite a non-conventional, purposeful arrangement of a network of clearinghouses and other computer components with novel and inventive process to specifically solve the problem of backwards compatibility in a computer network system, as well as controlling/limiting user access to particular computer networks.” App. Br. 20.

Our Review

Applying the guidance set forth in the Memorandum, we are not persuaded of Examiner error. The Memorandum instructs us first to determine whether any judicial exception to patent eligibility is recited in the claim. The guidance identifies three judicially-expected groupings: (1) mathematical concepts, (2) certain methods of organizing human behavior such as fundamental economic practices, and (3) mental processes. We focus here on the second and third groupings—certain methods of organizing human behavior such as fundamental economic practices and mental processes.

Claim 1 recites the following limitations: (1) “providing client-side, computer-executable instructions to a remote user computer for execution by

the remote user computer,” (2) “receiving an . . . order for a financial instrument,” (3) “receiving settings,” (4) “wherein the settings comprise[] a first indication of one or more of a plurality of clearinghouses . . . wherein the first indication identifies a first clearinghouse,” (5) “a second indication of one or more of a plurality of clearinghouses . . . wherein the second indication identifies at least a second clearinghouse,” (6) “a third indication of one or more of a plurality of clearinghouses . . . wherein the third indication identifies at least the third clearinghouse and the fourth clearinghouse,” (7) “determining . . . that the CCP attribute of the enhanced order does not identify the first clearinghouse,” (8) “determining . . . that the CCP attribute of the enhanced order does not identify the second clearinghouse,” (9) “sending . . . the . . . order to a matching engine module, wherein the matching engine module matches the . . . order,” (10) “sending . . . the matched . . . order to the fourth clearinghouse,” (11) “receiving . . . a confirmation that the matched . . . order is cleared and a price of the financial instrument at the respective clearinghouse,” (12) “generating . . . information comprising at least a part of the plurality of prices of the financial instrument with respect to different clearinghouses,” (13) “formatting the information . . . received from at least the first clearinghouse identified in the first indication,” (14) “formatting the information . . . received from at least the second clearinghouse identified in the second indication,” (15) “sending . . . a message to a user, wherein the message comprises the formatted information . . . comprising a plurality of prices of the financial instrument with respect to different clearinghouses and is configured to display on the remote user computer,” (16) “wherein the formatted information causes the remote user computer . . . to automatically

render on a display of the remote user computer a graphical user interface . . . viewable by a user.” App. Br. 23–24 (Claims Appendix).

These limitations, under their broadest reasonable interpretation, recite the fundamental economic practices of matching received orders and sending the matched orders to identified clearinghouses based on pre-defined settings. This is so because these limitations all recite the operations that would ordinarily take place in performing such an order matching process. For example, limitation (1) is the basic operation of setting up a trading environment. Limitation (2) is the standard practice of receiving a trade order from a user. Limitations (3)–(6) provide for identification of clearinghouses to clear an executed trade. Limitations (7) and (8), which recite making determinations regarding the content of the CCP attribute, are reasonably characterized as mental processes, which are also abstract. Limitations (9)–(11) reflect the customary practice of matching an order, sending a matched order to a clearinghouse, and receiving a clearing confirmation from the clearinghouse along with pricing information. Limitation (12) embodies the practice of pricing of financial instruments by clearinghouses. Limitations (13)–(15) recite formatting the information received from the clearinghouses and presenting that formatted information to traders.

Similar to the concept of hedging in *Bilski*, and the concept of intermediated settlement in *Alice* (which like the instant claims involves settlement of transactions involving financial instruments), the concept of matching received orders and sending the matched order to identified clearinghouses based on pre-defined settings recited in Appellants’ claims “is a fundamental economic practice long prevalent in our system of

commerce.” *Alice*, 573 U.S. at 219–220 (citations and internal quotation marks omitted). Accordingly, we conclude the claims recite a judicial exception of an abstract idea, specifically a fundamental economic practice.

Having determined that the claims recite a judicial exception, our analysis under the Memorandum turns now to determining whether there are “additional elements that integrate the judicial exception into a practical application.” See MPEP § 2106.05(a)–(c), (e)–(h). Appellants’ claim 1 recites that several of the steps of the claimed method are performed by “a server-side computer processor,” as well as the use of a “user data store” for storing the retrieved settings. The claimed “computer processor” is described primarily in functional terms in the Specification, and without meaningful detail about its structural configuration that differentiates it from standard, generic computer processors performing the recited operations. See, e.g., Spec. ¶ 79. The recited “user data store” is also described without any indication that it is anything other than a conventional relational database. See, e.g., Spec. ¶ 80 (“A user data store (e.g., user database 102) may include information identifying traders and other users of exchange computer system 100.”) As such, the claims’ recitations of the computer processor and user data store are insufficient to integrate the judicial exception into a practical application.

Claim 1 also recites additional limitations which focus on the use of a clearing counter-party (CCP) attribute to create an “enhanced” order and to identify clearinghouses additional to those identified in the settings retrieved from the user data store, including: (a) “receiving an *enhanced* order for a financial instrument, *wherein the enhanced order comprises a clearing counter-party (CCP) attribute identifying at least a third clearinghouse and*

a fourth clearing house.” Claim 1 further recites additional limitations relating to the retrieved settings, including that the recited “first indication” includes clearinghouses (b) “*from which prices are non-actionable but viewable,*” the recited “second indication” identifies clearinghouses (c) “*restricted from the user,*” and the recited “third indication” identifies clearinghouses (d) “*from which prices are viewable and actionable.*” App. Br. 23 (Claims Appendix).

Claim 1 further recites routing the order based on the determinations regarding the content of the CCP attribute: (e) “*blocking . . . the matched enhanced order from being sent to the first clearinghouse and second clearinghouse.*” Claim 1 also contemplates addressing a situation in which one of the clearinghouses does not have the capability to process the CCP attribute, and recites (f) “*removing . . . the CCP attribute from the matched enhanced order for backwards compatibility before sending it to the third clearinghouse.*”

Finally, claim 1 also recites presenting information to the user with specific formatting in order to convey certain information: (g) “*formatting the information in a first style for prices received from at least the first clearinghouse identified in the first indication, wherein the first style comprises grain out portion such that they are viewable but non-actionable,*” (h) “*formatting the information in a second style for prices received from at least the second clearinghouse identified in the second indication, wherein the second style comprises blacking out portion such that they are not viewable,*” and (i) “*presenting the information on a graphical user interface comprising the first and the second style such that the great out portions of the information are viewable by a user, but*

blocking user request for an action on the prices in those great out portions.”

We conclude that these limitations are insufficient to integrate the recited judicial exception into a practical application. The use of a “CCP attribute” to create an “enhanced order” as recited in limitation (a) does not improve the functioning of a computer, nor does it solve any technological problem with a technological solution. Rather, it is an improvement to the business process, i.e., to the financial instrument order itself, providing additional information that allows the user to be presented with better options for completing the order for the financial instrument. Indeed, the Specification describes no technological innovation associated with these features, and instead merely expresses the observation that “[i]n some examples, the ability to submit a RFQ for a particular product may be governed by a clearing relationship and/or a user’s desire/ability to clear at a specific CCP relative to the available prices at a CCP.” Spec. ¶ 34.

We also conclude the limitations relating to the data included in the retrieved user settings are insufficient to integrate the abstract idea into a practical application. Specifically, limitations (b)–(d), which specify that particular clearing houses may be (i) restricted from the user, (ii) viewable but not actionable, or (iii) both viewable and actionable, also do not improve the functioning of the computing system. Rather, these limitations amount only to improvements to the predefined settings used to identify clearinghouses suitable for receiving and/or clearing the enhanced order. As such, these limitations improve the abstract idea itself, but provide no technological improvement sufficient to integrate the idea into a practical application.

The limitation reciting routing the order based on the determinations made with respect to the presence of the CCP attribute is also insufficient to integrate the abstract idea into a practical application. The “blocking” step recited in limitation (e) only describes performing the logical action in light of those mental determinations, namely blocking the order from being sent to the first and second clearing houses which are restricted from the user.

Limitation (f), which recites removing the CCP attribute “for backwards compatibility before sending it to the third clearinghouse,” does not integrate the abstract idea into a practical application because it amounts to only “generally linking the use of the judicial exception to a particular technological environment,” (MPEP § 2106.05(h)). In particular, the removal of the CCP attribute is performed to permit the abstract idea of sending matched orders to identify clearinghouses to be implemented in a “particular technological environment,” as contemplated by MPEP § 2106.05(h), so that certain clearinghouses “do[] not necessarily need to be aware of this attribute in order to perform its functions.” Spec. ¶ 83. As such, the removal of the CCP attribute is not sufficient to integrate claim 1 into a practical application.

As noted above, limitations (g)–(h) recite how information is conveyed and presented to the user using different styles to indicate different clearinghouse options. However, these limitations do not improve the operation of the computer, but rather improve the ability of the trader to view and understand the information being conveyed. As recently observed by our reviewing court, where an “invention makes the *trader* faster and more efficient, not the computer . . . [it] is not a technical solution to a technical problem.” *Trading Techs. Int’l v. IBG, LLC*, Docket No. 2017-

2257, slip op. 9 (Fed. Cir. April 18, 2019); *see also id.* at slip. op. 15 (claims abstract where “they recite a purportedly new arrangement of generic information that assist traders in processing information more quickly”).

In view of the discussion above, we conclude the additional limitations (a)–(h) recited in claim 1 are not sufficient to integrate the claimed process into a practical application, and therefore the claim is *directed to* a judicial exception.

Having determined the claim is directed to a judicial exception, we proceed to evaluating whether the claim adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)) or simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. *See* Memorandum, 84 Fed. Reg. at 56.

We agree with the Examiner that the claim does not supply the inventive concept required under *Alice* step 2. Appellants’ argument under *Alice* step 2 relies primarily on *BASCOM Global Internet Servs. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016), asserting that the “non-conventional, purposeful arrangement of a network of clearinghouses and other computer components [provides a] novel an inventive process to specifically solve the problem of backwards compatibility in a computer network system, as well as controlling/limiting user access to particular computer networks.” App. Br. 20. We observe no disclosure in the Specification characterizing backwards compatibility or limiting user access as problems in the prior art to be addressed by Appellants’ invention.

Moreover, although Appellants assert “inventive concepts recited in Applicants’ claims are in the aforementioned non-conventional and non-generic arrangement,” (App. Br. 18), Appellants do not explain how these purported inventive concepts are in the non-abstract realm. *SAP Am., Inc. v. InvestPic, LLC*, No. 2017-2081, 2018 U.S. App. LEXIS 12590, Slip. Op. 13 (Fed. Cir. May 15, 2018) (“[w]hat is needed is an inventive concept in the non-abstract realm”). Indeed, the Specification states that the invention “may be implemented with one or more mainframes, servers, gateways, controllers, desktops or other computers,” which are generic computer components. Spec. ¶ 79.

Because the asserted improvements are within the abstract realm, and because the claimed process is carried out using a generic computer, we do not discern in claim 1 any “specific limitation beyond the judicial exception that is not ‘well-understood, routine, conventional.’” MPEP § 2106.05(d). Consequently, we agree with the Examiner that the claims do not supply an inventive concept sufficient to transform the judicial exception into patent-eligible subject matter.

Summary

Because the Examiner correctly concluded claim 1 is directed to a judicial exception, and because Appellants do not identify any error in the Examiner’s determination under *Alice* step 2, we sustain the rejection of claim 1 under 35 U.S.C. § 101. Appellants do not present arguments for any other claim. Accordingly, we treat claim 1 as representative, and sustain the patent-eligibility rejection of the remaining claims for the same reasons.

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DECISION

We affirm the Examiner's rejection of claims 1–5 and 11–17.

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

AFFIRMED