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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte AMULYA MISHRA, ALAN FOTHERGILL, OLIVER
STEINMEIER, and KENICHI MIZUTA

Appeal 2018-005313
Application 11/674,152
Technology Center 2100

Before CAROLYN D. THOMAS, CARL W. WHITEHEAD JR., and
PHILLIP A. BENNETT, *Administrative Patent Judges*.

BENNETT, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–7, 10–14, 20, 21, and 23–26. Claims 8, 9, 15–19, and 22 have been cancelled. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

¹ We use the word “Appellant” to refer to “Applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Oracle International Corporation. App. Br. 1.

CLAIMED SUBJECT MATTER

The claims are directed to simplifying understanding of procedure dependencies in a form definition. Spec., Title. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method of facilitating understanding of procedure dependencies in form definitions, said method being performed in a digital processing system, said method comprising:

receiving a form definition, wherein said form definition being already enabled to provide a user interface on display screens as a corresponding form to users,

wherein said received form definition includes a plurality of procedures, each of said plurality of procedures containing a corresponding group of software instructions, which upon execution are operative to provide said user interface as said corresponding form,

wherein each of said plurality of procedures is identified by a corresponding one of a plurality of identifiers, each software instruction being in the form of a text in said form definition,

said plurality of procedures including a first procedure and a second procedure, respectively identified by a first identifier and a second identifier of said plurality of identifiers, said second identifier being in the form of a second text and said first procedure containing a software instruction to invoke said second procedure, said software instruction containing said second text to identify said second procedure sought to be invoked;

examining the text forming the corresponding group of software instructions contained in each of said plurality of procedures to determine a plurality of pairs of procedures, wherein one procedure in a pair is designed to invoke the other procedure of the pair as said user interface is provided on display screens as said corresponding form based on said form definition,

wherein said examining determines said first procedure and said second procedure together as one of said plurality of

pairs of procedure in view of said software instruction of said first procedure containing said second text identifying said second procedure;

incorporating a hyperlink associated with said second text in said software instruction of said first procedure in response to said determination of said pair, wherein said hyperlink is enabled to retrieve the corresponding group of software instructions constituting said second procedure and display the retrieved group of software instructions to a user in response to a user action associated with a display of said second text by said user;

displaying a listing of software instructions constituting said first procedure, said listing of software instructions containing software instructions including said software instruction as received in said form definition, wherein said second text in said listing of software instructions is displayed in a style indicating that said hyperlink is associated with said second text, and wherein a second set of software instructions in said listing are displayed in another style indicating that none of said second set of software instructions are associated with hyperlinks;

receiving an indication that said hyperlink has been activated by said user in view of said user performing said user action associated with said second text contained in said displayed listing; and

in response to receiving of said indication, retrieving a second group of software instructions constituting said second procedure and displaying the retrieved second group of software instructions, wherein the displayed second group of software instructions contain an identifier of said second procedure matching said second text, said second group of software instructions containing software instructions as received in said form definition.

App. Br. 18–19 (Claims Appendix).

REFERENCES

The prior art relied upon by the Examiner is:

Kothari	US 7,174,536 B1	Feb. 06, 2007
Dozier	US 7,333,966 B2	Feb. 19, 2008
Hitchcock	US 7,376,891 B2	May 20, 2008
Friend	US 7,584,417 B2	Sept. 01, 2009
Ortscheid	US 2007/0005342 A1	Jan. 04, 2007

REJECTIONS

Claim 1 stands rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Non-Final Act. 2–3.

Claims 1–7, 10–14, 20, 21, and 23–26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Friend, Dozier, Hitchcock, Kothari, and Ortscheid. Final Act. 3–13.

REJECTION UNDER 35 U.S.C. § 101

Standard for Patent Eligibility

In issues involving subject matter eligibility, our inquiry focuses on whether the claims satisfy the two-step test set forth by the Supreme Court in *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208 (2014). The Court instructs us to “first determine whether the claims at issue are directed to a patent-ineligible concept,” *Id.* at 217–18, 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 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 has published revised guidance on the application of § 101 consistent with *Alice* and subsequent Federal Circuit decisions. USPTO, *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Guidance”). Under the 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) (referred to Step 2A, prong 1 in the Guidance); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)) (referred to Step 2A, prong 2 in the Guidance).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then move to Step 2B of the Guidance. There, we 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 Guidance, 84 Fed. Reg. at 52.

Examiner's Findings and Conclusion

The Examiner rejects claim 1 as being directed to a judicial exception without significantly more under *Alice*. Final Act. 2–3. In the first step of the *Alice* inquiry, the Examiner determines the claim 1 is “directed to the abstract idea of creating an index and using that index to search for and retrieve data.” Final Act. 2. Under *Alice* step 2, the Examiner determines that the claim does “not include additional elements that are sufficient to amount to significantly more than the judicial exception because additional elements, which are recited at a high level of generality, provide conventional functions that do not add meaningful limits to practicing the abstract idea. Final Act. 2.

Appellant's Contentions

Appellant argues that there are several deficiencies in the rejection. App. Br. 8–10. Appellant argues the Examiner's characterization of the claims is inaccurate because “there is no creation of indices based on which search/retrieval of data is later performed.” App. Br. 9. Appellant further argues the claims are not directed to an abstract idea under *Alice* step 1 because they are analogous to those claims found eligible in *Trading Techs. Int'l, Inc. v. CQG, Inc.*, 675 F. App'x 1001 (Fed. Cir. 2017). App. Br. 10. Appellant further argues claim 1 provides a technological improvement because it “is directed to improving usability . . . of user interfaces while a developer tries to understand procedure dependencies in a form definition.” App. Br. 11. Appellant asserts that the improvements are “achieved by determining the dependencies and incorporating hyperlinks corresponding to the determined dependencies” and that “[t]he incorporation of hyperlinks

causes the text constituting the procedure to be modified, which in turn alters the navigation of the user interface.” App. Br. 11.

*Revised Guidance, Step 2A, Prong One*²
The Judicial Exception

Applying the guidance set forth in the Guidance, we are persuaded the Examiner has erred in rejecting claim 1 as being directed to patent-ineligible subject matter. The Guidance 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 activity such as fundamental economic practices, and (3) mental processes. We focus our analysis on the third grouping—mental processes.³

Claim 1 recites the following limitations: (1) “receiving a form definition,” (2) “examining the text forming the corresponding group of software instructions contained in each of the plurality of procedures to determine a plurality of pairs of procedures, wherein one procedure in a pair is designed to invoke the other procedure of the pair as said user interface is provided on display screens as said corresponding form based on said form

² Throughout this opinion, we give the claim limitations the broadest reasonable interpretation consistent with the Specification. *See In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

³ Appellant’s arguments are made to the claims generally. We treat claim 1 as representative. 37 C.F.R. § 41.37(c)(iv) (“When multiple claims subject to the same ground of rejection are argued as a group or subgroup by Appellant, the Board may select a single claim from the group or subgroup and may decide the appeal as to the ground of rejection with respect to the group or subgroup on the basis of the selected claim alone.”).

definition,” and (3) “wherein said examining determines said first procedure and said second procedure together as one of said plurality of pairs of procedure in view of said software instruction of said first procedure containing said second text identifying said second procedure.” App. Br. 18 (Claims Appendix).

We conclude that these limitations, under their broadest reasonable interpretation, recite mental processes as defined in the Guidance. A claim recites a mental process when the claim encompasses acts people can perform using their minds or pen and paper. *See, e.g., CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372–73 (Fed. Cir. 2011) (determining that a claim whose “steps can be performed in the human mind, or by a human using a pen and paper” is directed to an unpatentable mental process). This is true even if the claim recites that a generic computer component performs the acts. *See, e.g., Versata Dev. Grp., Inc. v. SAP America, Inc.*, 793 F.3d 1306, 1335 (Fed. Cir. 2015) (“Courts have examined claims that required the use of a computer and still found that the underlying, patent-ineligible invention could be performed via pen and paper or in a person’s mind.”); *see also* Guidance, 84 Fed. Reg. at 52 n.14 (“If a claim, under its broadest reasonable interpretation, covers performance in the mind but for the recitation of generic computer components, then it is still in the mental processes category unless the claim cannot practically be performed in the mind.”).

Limitation (1) recites receiving a form definition. This step encompasses a person being handed a piece of paper with a form definition printed thereon. This limitation also encompasses a person being verbally told the parameters and/or details of a form definition. Limitations (2) and

(3), which recite examining code to identify procedures pairs in which one procedure invokes another, are also readily performed in the human mind by observation, evaluation, and using judgement. *See Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1139, (Fed. Cir. 2016). Accordingly, we conclude claim 1 *recites* a judicial exception of a mental process.

Revised Guidance, Step 2A, Prong Two
Integration of the Judicial Exception into a Practical Application

Having determined that the claim 1 recites 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* Guidance, 84 Fed. Reg. at 54–55 (citing MPEP § 2106.05(a)–(c), (e)–(h)). Appellant’s claim 1 recites numerous elements additional to those identified above. These limitations include (a) the received form definition “being already enabled to provide a user interface on display screens as a corresponding form to users,” (b) “wherein said received form definition includes a plurality of procedures, each of said plurality of procedures containing a corresponding group of software instructions, which upon execution are operative to provide said user interface as said corresponding form,” (c) “wherein each of said plurality of procedures is identified by a corresponding one of a plurality of identifiers, each software instruction being in the form of a text in said form definition,” (d) “said plurality of procedures including a first procedure and a second procedure, respectively identified by a first identifier and a second identifier of said plurality of identifiers, said second identifier being in the form of a second text and said first procedure containing a software instruction to invoke said second procedure, said software instruction containing said

second text to identify said second procedure sought to be invoked,” (e) “,” (f) “wherein said examining determines said first procedure and said second procedure together as one of said plurality of pairs of procedure in view of said software instruction of said first procedure containing said second text identifying said second procedure,” (g) “incorporating a hyperlink associated with said second text in said software instruction of said first procedure in response to said determination of said pair, wherein said hyperlink is enabled to retrieve the corresponding group of software instructions constituting said second procedure and display the retrieved group of software instructions to a user in response to a user action associated with a display of said second text by said user,” (h) “wherein said second text in said listing of software instructions is displayed in a style indicating that said hyperlink is associated with said second text, and wherein a second set of software instructions in said listing are displayed in another style indicating that none of said second set of software instructions are associated with hyperlinks,” (i) “receiving an indication that said hyperlink has been activated by said user in view of said user performing said user action associated with said second text contained in said displayed listing,” and (j) “in response to receiving of said indication, retrieving a second group of software instructions constituting said second procedure and displaying the retrieved second group of software instructions, wherein the displayed second group of software instructions contain an identifier of said second procedure matching said second text, said second group of software instructions containing software instructions as received in said form definition.” App. Br. 18–19 (Claims Appendix).

We conclude that these limitations integrate the recited judicial exception into a practical application because they reflect a technological improvement and thus impose a meaningful limit on the recited judicial exception. MPEP § 2106.05(a). In particular, we agree with Appellant that the use of identified procedure pairs to modify the behavior and appearance of a form definition user interface provides a technological improvement to how a computer operates. In particular, by inserting hyperlinks into the code instructions of procedure pairs, “the present invention enables a user to directly access the called procedure from the caller procedure.” Spec. ¶ 59. Thus, the additional limitations recited in claim 1, allow a user immediate access to the code instructions of a corresponding procedure in the pair, and they provide improved accuracy and efficiency in navigation and understanding of the structure and operation of form definition. Thus, the identification of procedure pairs and the use of hyperlinks to navigate among those identified procedure pairs provides a specific technological improvement over prior systems. Accordingly, we conclude claim 1 is integrated into a practical application, and under the Guidance, the claim is patent-eligible because it is not *directed to* the recited judicial exception.⁴ We do not sustain the rejection of representative claim 1 under 35 U.S.C. § 101.

⁴ Because we have determined the claim is not directed to the recited judicial exception, we need not reach Step 2B of the Guidance and the question of whether the claim provides an inventive concept under the second step of the *Alice* inquiry.

REJECTION UNDER 35 U.S.C. § 103

The Examiner rejects claim 1 as being obvious over Friend, Dozier, Hitchcock, Kothari, and Ortscheid. Final Act. 3–8. Relevant here, the Examiner finds the limitation “examining the text forming the corresponding group of software instructions contained in each of said plurality of procedures to determine a plurality of pairs of procedures, wherein one procedure in a pair is designed to invoke the other procedure of the pair as said user interface is provided on display screens as said corresponding form based on said form definition,” is taught by Friend. Final Act. 4; Ans. 3–4 (citing Friend col. 4, ll. 17–27 and col. 8, ll. 25–41). More specifically, the Examiner finds this limitation taught by Friend’s description of dynamic actions and cascading dependencies. *Id.*

Appellant argues that the cited portions of Friend are deficient because “the first dynamic action is executed upon satisfaction of its own/first condition, and the second dynamic action is executed upon satisfaction of its own/second condition in addition to the first condition.” App. Br. 15. We agree with Appellant that the Examiner has failed to demonstrate Friend teaches or suggests this limitation.

The cited portions of Friend describe the use of a “dynamic-action builder” which “enables a designer to view his or her progress in building the dynamic action in a dynamic action area.” Friend, col. 4, ll. 17–19. Friend further teaches that the dynamic actions may include cascading conditions which carry through to other dynamic actions such that conditions in the second dynamic action are dependent on conditions in the first dynamic action. Friend, col. 8, ll. 25–41. However, we do not discern any teaching in Friend that code is examined to make a *determination* of any

pair of procedures in which one procedure invokes the other is made. At best, Friend teaches that dynamic actions may be written to invoke other dynamic actions. However, displaying a development environment in which dynamic actions invoke other dynamic actions does not teach identifying related procedure pairs by examining their code, which is what the claim requires.

Accordingly, we are persuaded the Examiner erred, and we reverse the rejection of claim 1 under 35 U.S.C. § 103(a). For the same reasons, we also reverse the rejections of claims 10 and 20 which recite similar limitations, as well as of the remaining claims which depend therefrom.

CONCLUSION

The Examiner's decision to reject the claims is reversed.

More specifically,

We reverse the rejection of claim 1 under 35 U.S.C. § 101.

We reverse the rejection of claims 1–7, 10–14, 20, 21, and 23–26 under 35 U.S.C. § 103(a).

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1	101	patent eligibility		1
1–7, 10–14, 20, 21, 23–26	103	Friend, Dozier, Hitchcock, Kothari, Ortscheid		1–7, 10–14, 20, 21, 23–26
Overall Outcome				1–7, 10–14, 20, 21, 23–26

Appeal 2018-005313
Application 11/674,152

REVERSED