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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SCOTT CURRIE and KANG SU GATLIN

Appeal 2017-009330
Application 12/817,281¹
Technology Center 3600

Before JASON V. MORGAN, ADAM J. PYONIN, and JOHN R. KENNY,
Administrative Patent Judges.

MORGAN, *Administrative Patent Judge.*

DECISION ON APPEAL
STATEMENT OF THE CASE

Introduction

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1, 3, 4, 6–14, 16–20, and 22–24. Claims 2, 5, 15, and 21 are canceled. Br. 28, 29, 31, 32 (Claims App'x). We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ Appellants identify Varigence, Inc., as the real party in interest. Br. 4.

Summary of disclosure

Appellants disclose querying business intelligence data and generating “a workflow slice that represents the portion of the business intelligence workflow that contributes to the specific piece of business intelligence data.”
Abstract.

Exemplary Claim (key limitations emphasized)

1. A method of analyzing a data asset, comprising:

receiving, at one or more processing devices, electronic signals associated with a data asset, the data asset comprising one or more of a relational database, data warehouse, data mart, multidimensional database, an extract/transform/load (ETL) package, or an analytical report definition;

analyzing, with the one or more processing devices, the electronic signals associated with the data asset;

determining, with the one or more processing devices, a data workflow providing data flow information for the data asset, wherein the data workflow comprises a set of computer-implemented transformations for a plurality of data items associated with the data asset;

generating, with the one or more processing devices, a data workflow representation based at least in part on the data workflow;

receiving a query related to a selected data item of the plurality of data items associated with the electronic data asset;

generating, with the one or more processing devices, a workflow slice based on the query to determine a plurality of nodes that include a use or definition relationship associated with the plurality of data items, wherein the workflow slice comprises a subset of the set of transformations, the subset corresponding to the selected data item and providing a representation of the portion of the set of computer-implemented transformations that contributes to the generation of the selected data item in the data workflow, wherein

generation of the workflow slice does not affect the set of computer-implemented transformations; and

providing, by the one or more processing devices, the workflow slice for display on a display device to a user.

Rejections

The Examiner rejects claims 1, 3, 4, 6–14, 16–20, and 22–24 under 35 U.S.C. § 112, second paragraph, as being indefinite. Final Act. 7.

The Examiner rejects claims 1, 3, 4, 6–14, 16–20, and 22–24 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Final Act. 11–23.

The Examiner rejects claims 1, 3, 4, 6–8, 14, and 20 under 35 U.S.C. § 103(a) as being unpatentable over Stein et al. (US 2004/0189718 A1; published Sept. 30, 2004) (“Stein”) and Moon et al. (US 2004/0078105 A1; published Apr. 22, 2004). Final Act. 24–37.

The Examiner rejects claims 9–12, 16–18, 22, and 23² as being unpatentable over 35 U.S.C. § 103(a) as being unpatentable over Stein, Moon, and Bradlee et al. (US 2006/0167924 A1; published July 27, 2006) (“Bradlee”). Final Act. 37–38.

The Examiner rejects claims 13, 19, and 24 under 35 U.S.C. § 103(a) as being unpatentable over Stein, Moon, Bradlee, and Mush et al. (US 2008/0126389 A1; published May 29, 2008) (“Mush”). Final Act. 38–39.

35 U.S.C. § 112, SECOND PARAGRAPH

The Examiner finds that the claim 1 recitation directed to *generating a workflow slice based on a query to determine a plurality of nodes that*

² The Examiner erroneously lists claims 13, 19, and 24 as part of this rejection. Final Act. 37–38.

include a use or definition relationship associated with a plurality of data items is vague because “it’s not clear how ‘a generated . . . workflow slice’ is connected to ‘to determine a plurality of nodes that include a use or definition relationship associated with the plurality of data items’ and what are the result of this ‘connection.’” Ans. 6; *see also* Final Act. 7. Therefore, the Examiner concludes claim 1 is indefinite.

Appellants contend the Examiner erred because “the [S]pecification and claim[1] clearly describe[s] how determining ‘a plurality of nodes that include a use or definition relationship associated with the plurality of data items’ . . . is explicitly described in the original application as a more particular feature related to ‘generating . . . a workflow slice.’” Br. 11 (last omission in original). In support of their argument, Appellants point to multiple paragraphs related to generating a workflow slice, using a graph constructor and static code analysis to generate a business intelligence workflow representation, using flow graphs with use or definition information calculated. *See id.* at 11–12 (citing Spec. ¶¶ 11, 40, 43, 49).

We agree with Appellants that the Examiner erred. As the Specification discloses, a “workflow slice provides a representation of the portion of the business intelligence workflow that contributes to the generation of the specific piece of business intelligence data.” Spec. ¶ 42. A workflow slice “can be generated by performing static code analysis on the business intelligence workflow to determine a plurality of nodes that include a use or definition relationship associated with the business intelligence data.” *Id.* ¶ 43. These disclosures help illustrate that *generating a workflow slice*, as recited in claim 1, entails identifying (i.e., determining) which nodes contribute to the generation of a specific piece of business

intelligence data (i.e., include a use or definition relationship associated with a plurality of data items). Thus, contrary to the Examiner’s findings and conclusions (Final Act. 7; Ans. 6), the “connection” between *generating a workflow slice* and *to determine a plurality of nodes that include a use or definition relationship associated with the plurality of data items* is clear. Therefore, the Examiner does not show that the recitations of claim 1 are ambiguous and that claim 1 is indefinite.

Accordingly, we do not sustain the Examiner’s 35 U.S.C. § 112, second paragraph, rejection of claim 1, and claims 3, 4, 6–14, 16–20, and 22–24, which are similarly rejected. Final Act. 7; Ans. 6.

35 U.S.C. § 101

Principles of law

To be statutorily patentable, the subject matter of an invention must be a “new and useful process, machine, manufacture, or composition of matter, or [a] new and useful improvement thereof.” 35 U.S.C. § 101. There are implicit exceptions to the categories of patentable subject matter identified in § 101, including: (1) laws of nature; (2) natural phenomena; and (3) abstract ideas. *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 217 (2014). The Supreme Court has set forth a framework for distinguishing patents with claims directed to these implicit exceptions “from those that claim patent-eligible applications of those concepts.” *Id.* (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012)). The *Alice* evaluation follows a two-part analysis: (1) determine whether the claim is *directed to* a patent-ineligible concept, e.g., an abstract idea; and (2) if so, then determine whether any element, or combination of elements, in the claim is sufficient

to ensure that the claim amounts to *significantly more* than the patent-ineligible concept itself. *See Alice*, 573 U.S. at 217–18.

If a claim proves to be unpatentable as a result of the two-part analysis, no additional determination regarding preemption is necessary. “While preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility,” as “questions on preemption are inherent in and resolved by the § 101 analysis.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) (internal quotation marks and citation omitted).

The U.S. Patent and Trademark Office (USPTO) recently published revised guidance on the application of the *Alice* two-part analysis. USPTO, *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (“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 interactions such as a fundamental economic practice, or mental processes) (*see* Memorandum, 84 Fed. Reg. at 54 (Step 2A – Prong One)); and
- (2) additional elements that integrate the judicial exception into a practical application (*see* Memorandum, 84 Fed. Reg. at 54–55 (Step 2A – Prong Two); MPEP § 2106.05(a)–(c), (e)–(h)).

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 are 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 (Step 2B).

Memorandum Step 2A – Prong One

Claim 1 is directed to a “method of analyzing a data asset” that includes steps directed to generating a representation of a data workflow that “comprises a set of computer-implemented transformations for a plurality of data items associated with [a] data asset” and to receiving and using a query to generate for display “a workflow slice . . . to determine a plurality of nodes that include a use or definition relationship associated with the plurality of data items.” We agree with the Examiner that claim 1, reciting certain methods of organizing human activity in the form of analyzing a data asset (i.e., a fundamental economic practice), is abstract. Final Act. 14; *see also* Memorandum, 84 Fed. Reg. at 52–54. Additionally, based on the record before us, the claim also recites mental processes (including an observation, evaluation, judgment, opinion). Memorandum, 84 Fed. Reg. at 52.

Memorandum Step 2A – Prong Two

Appellants argue claim 1 “is not directed to an abstract idea” because claim 1 “is directed to an improvement in computer-related technology.” Br. 13. In particular, Appellants argue “the method of independent claim 1 enables a computer system to provide the capability to easily visualize and

manipulate complex business intelligence workflow without affecting other parts of the workflow, thereby solving a technological challenge that had caused problems for existing business intelligence systems.” *Id.* at 15. Appellants further argue that, like “the claimed methods of automatic lip synchronization and facial expression animation using computer-implemented rules” in *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016), “claim 1 incorporates particular rules and recites a specific way to solve the problem of computerized visualization and manipulation of complex business intelligence workflow without affecting other parts of the workflow, rather than merely claiming the idea of a solution or outcome.” Br. 14, 15.

Appellants’ arguments are unpersuasive because claim 1 does not include recitations directed to the *manipulation* of a workflow. *See* Ans. 2–3. Rather, the recitations of claim 1 are directed merely to generating a “workflow slice for display.” Therefore, Appellants’ arguments are not commensurate with the recitations of claim 1.

Moreover, Appellants do not identify any recited rules that reflect a specific implementation of the claimed process that differs from what a human workflow analyst would likely have used in searching workflow data to generate a workflow slice. *See McRO*, 837 F.3d at 1316 (citing *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 595–96 (2013)); *see also* Robert W. Bahr, *Recent Subject Matter Eligibility Decisions*, USPTO 1, 2 (2016), available at <https://www.uspto.gov/sites/default/files/documents/McRo-Bascom-Memo.pdf> (“[H]uman artists did not use the claimed rules, and instead relied on subjective determinations.”). That is, the claimed process is dissimilar from the patent-eligible process of

McRO, where specific rules supplant subjective determinations such that “incorporation of the claimed rules, not the use of the computer, . . . ‘improved [the] existing technological process’ by allowing the automation of further tasks.” *McRO*, 837 F.3d at 1314 (bracketed omission in original).

In light of the Examiner’s determinations and Appellants’ unpersuasive arguments, we are unable to find any additional recitations in claim 1 that, either individually or in combination, integrate the underlying abstract idea into a practical application. Memorandum, 84 Fed. Reg. at 54–55. Thus, “the claim is directed to the recited judicial exception” pursuant to Step 2A of the guidelines. Memorandum, 84 Fed. Reg. at 54.

Memorandum Step 2B

The Examiner determines that the additional limitations of claim 1 do not make claim 1 significantly more than the underlying abstract idea because, even when considered as an ordered combination, they are directed to: (1) insignificant pre-solution activities such as data gathering; (2) insignificant post-solution activities such as displaying results; (3) generic computer technologies that merely perform generic computer functions; and (4) well-known, conventional processes for analyzing data assets. *See* Final Act. 19–22.

Appellants contend the Examiner erred because “claim 1 recites a non-conventional and non-generic arrangement of elements, as identified as an inventive concept in [*Bascom Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016)].” Br. 17. Specifically, Appellants argue that the recitations of claim 1

makes reference to several different and distinct computing operations which receive and generate different and specific types of data. The method of claim 1 provides particular rules

for receiving electronic signals associated with a data asset and a workflow query as well as generating data workflow representations and workflow slices that accommodate a meaningful arrangement for visualizing and manipulating business complex business intelligence workflow without affecting other parts of the workflow. The particular arrangement of computing operations and components referenced by [claim 1] is both non-conventional and non-generic.

Id. at 18.

Appellants' reliance in *Bascom* is unpersuasive, however, because the claimed method is not a "particular arrangement of elements [that provides] a *technical* improvement over prior art" methods. *Bascom*, 827 F.3d at 1350 (emphasis added). As discussed above, the claimed method generates a workflow slice for display using methods that a human workflow analyst would have used in searching workflow data to generate a workflow slice.

Furthermore, contrary to Appellants' arguments, the recited computing operations and types of data represent the recitation of generic computer elements being invoked merely as tools to automate a manual workflow analysis process. For example, claim 1 generically recites steps performed at or with "one or more processing devices" to receive and analyze "electronic signals," to determine a data workflow comprising "a set of computer-implemented transformations for a plurality of data items," to generate "a data workflow representation" and "a workflow slice," and to provide "the workflow slice for display." Moreover, the Specification discloses that the "various computer systems discussed [in the Specification] are not limited to any particular hardware architecture or configuration." Spec. ¶ 32. Even generation of the claimed workflow slice can use "any suitable algorithm that gives the use/definition path." *Id.* ¶ 43. Therefore,

the claimed invention merely represents automation of a manual workflow analysis process using generic computer technologies. Such automation, however, “does not constitute a patentable improvement in computer technology.” *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1055 (Fed. Cir. 2017).

For these reasons, we agree with the Examiner that claim 1 lacks additional recitations that render the claim patent eligible. *See* Final Act. 19–22. Accordingly, we sustain the Examiner’s 35 U.S.C. § 101 rejection of claim 1, and claims 3, 4, 6–14, 16–20, and 22–24, which Appellants do not argue separately. Br. 13, 19.

35 U.S.C. § 103(A)

In rejecting claim 1 as obvious, the Examiner finds that Stein’s graphical user interface display of a partially-obscured workflow process teaches or suggests *generating a workflow slice based on a query to determine a plurality of nodes that include a use or definition relationship associated with a plurality of data items*. Final Act. 29–31 (citing Stein ¶ 102, Figs. 4D, 5B, 7D); *see also* Ans. 6–7.

Appellants contend the Examiner erred because, instead of generating a workflow slice, Stein temporarily *obscures* a workflow representation. Br. 20 (citing Stein ¶ 102). Appellants’ argument accords with Stein’s disclosure that the partially-obscured workflow process display results from moving a quick information bar across a screen rather than from generating a workflow slice in the manner claimed. *See* Stein ¶ 102; *also compare* Stein, Fig. 4D *with* Stein, Fig. 4B. As discussed above, the claimed workflow slice generation is directed to identifying which nodes contribute to the generation of a specific piece of business intelligence data. No such

identification is evident in the cited disclosure of Stein, which arbitrarily obscures elements of a workflow process based on their arrangement on the display before moving the quick information bar, rather than based on whether the elements contribute to a specific piece of business intelligence data. Therefore, the Examiner's findings do not show that Stein teaches or suggests "generating . . . a workflow slice based on the query to determine a plurality of nodes that include a use or definition relationship associated with the plurality of data items," as recited in claim 1.

The Examiner's findings do not show that Moon or Bradlee cure the noted deficiency of Stein. Accordingly, we do not sustain the Examiner's 35 U.S.C. § 103(a) rejection of claim 1, and the Examiner's 35 U.S.C. § 103(a) rejections of claims 3, 4, 6–14, 16–20, and 22–24.

DECISION

Because we sustain at least one rejection of claims 1, 3, 4, 6–14, 16–20, and 22–24, we affirm the Examiner's decision rejecting these claims.

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. § 41.50(f).

AFFIRMED