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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte QI JIN, HUI LIAO, SRIRAM K. PADMANABHAN, and LIN XU

Appeal 2013-010369
Application 11/372,540
Technology Center 2100

Before JOHNNY A. KUMAR, CATHERINE SHIANG, and NORMAN H. BEAMER, *Administrative Patent Judges*.

SHIANG, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1–14 and 30–39, which are all the claims pending and rejected in the application. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

STATEMENT OF THE CASE

Introduction

The present invention relates to data processing. *See generally* Spec. 1. Claim 1 is exemplary:

> 1. A computer implemented method for generating code for an integrated data system, comprising:

based on a received mixed data flow containing mixed data flow operators which collectively define operations to be performed to complete the mixed data flow such that a first runtime environment to perform a given operation of the defined operations is programmatically selected from a plurality of different types of runtime environments, wherein at least one of the operations performed in a first respective runtime environment is dependent on at least one other operation performed in a second respective runtime environment, generating a graph containing logical operators independent of the plurality of different types of runtime environments;

converting the graph to a model wherein the logical operators are converted to model operators associated with the plurality of different types of runtime environments; and

converting the model into an execution plan graph executable on the plurality of different types of runtime environments, by operation of one or more computer processors.

References and Rejections

Claims 1–14 and 30–39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Cutsinger (US 7,493,311 B1; Feb. 17, 2009), Savage (US 6,604,110 B1; Aug. 5, 2003), and Chaudhuri (US 6,850,925 B2; Feb. 1, 2005).

ANALYSIS

We disagree with Appellants' arguments, and agree with and adopt the Examiner's findings and conclusions in (i) the action from which this

appeal is taken and (ii) the Answer to the extent they are consistent with our analysis below.[1]

On this record, we find the Examiner did not err in rejecting claim 1.

Issue 1

Appellants contend the cited references do not collectively teach

> converting the graph to a model wherein the logical operators are converted to model operators associated with the plurality of different types of runtime environments; and
>
> converting the model into an execution plan graph executable on the plurality of different types of runtime environments, by operation of one or more computer processors,

as recited in claim 1. *See* App. Br. 10–14. In particular, Appellants assert:

> *Chaudhuri* is still silent on any sub-plan query statements that include model operators associated with different types of runtime environments, the model operators being converted from logical operators. *Chaudhuri* is also silent on the final query execution plan being executable on the different types of runtime environments. Further, *Savage* and *Cutsinger* do not cure these deficiencies of *Chaudhuri.* Because *Cutsinger,* even in view of *Savage* and *Chaudhuri,* does not disclose at least the underlined limitations above[.]

App. Br. 13–14.

Appellants have not persuaded us of error. In response to Appellants' arguments, the Examiner provides detailed findings showing Cutsinger,

[1] To the extent Appellants advance new arguments in the Reply Brief without showing good cause, Appellants have waived such arguments. *See* 37 C.F.R. § 41.41(b)(2).

Savage, and Chaudhuri collectively teach the disputed claim limitations. *See* Ans. 14–16. In particular, the Examiner cites Savage's disclosures and explains why Cutsinger and Savage collectively teach "converting the graph to a model wherein the logical operators are converted to model operators associated with the plurality of different types of runtime environments," as recited in claim 1. *See* Ans. 15. Further, the Examiner cites Chaudhuri's disclosures and explains why Cutsinger, Savage, and Chaudhuri collectively teach "converting the model into an execution plan graph executable on the plurality of different types of runtime environments, by operation of one or more computer processors," as recited in claim 1. *See* Ans. 15.[2] Appellants fail to persuasively respond to such findings and, therefore, fail to show error in the Examiner's findings. *See In re Baxter Travenol Labs.*, 952 F.2d 388, 391 (Fed. Cir. 1991) ("It is not the function of this court [or this Board] to examine the claims in greater detail than argued by an appellant, looking for [patentable] distinctions over the prior art.").

Further, Appellants' assertion that "*Cutsinger,* even in view of *Savage* and *Chaudhuri,* does not disclose at least the underlined limitations above" (App. Br. 14) lacks the requisite analysis, and, therefore, is unpersuasive. *See* 37 C.F.R. § 41.37(c)(1)(iv) ("A statement which merely points out what a claim recites will not be considered an argument for separate patentability of the claim"); *see also In re Lovin*, 652 F.3d 1349, 1357 (Fed. Cir. 2011) (holding that "the Board reasonably interpreted Rule 41.37 to require more substantive arguments in an appeal brief than a mere recitation of the claim

[2] We understand the Examiner's finding to mean because Cutsinger and Savage collectively teach "the plurality of different types of runtime environments," Chaudhuri does not need to teach that claim term separately.

elements and a naked assertion that the corresponding elements were not found in the prior art").

Issue 2

Appellants argue "the rationale of the Office for the proposed modification of *Cutsinger* using *Savage* and *Chaudhuri* is merely conclusory" because it is unclear what benefits are achieved through the proposed modification. App. Br. 14.

Appellants have not persuaded us of error. The U.S. Supreme Court has held "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 416 (2007). Further, "[i]f the claim extends to what is obvious, it is invalid under § 103" and "the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR*, 550 U.S. at 418–19.

Contrary to Appellants' arguments, the Examiner has provided an articulated reasoning with a rational underpinning as to why one skilled in the art would have found it obvious to combine the teachings of Cutsinger, Savage, and Chaudhuri. *See* Ans. 4–5, 16–17. In particular, the Examiner finds the combination would have "facilitate[d] the coordination of interaction between different data sources" and "allow[ed] a user or computing system to analyze plans for potential optimization that will yield accurate cost estimates for execution." Ans. 5, 17. Appellants do not persuasively show why such reasoning is incorrect.

The Examiner's findings are reasonable because the skilled artisan would "be able to fit the teachings of multiple patents together like pieces of a puzzle" since the skilled artisan is "a person of ordinary creativity, not an automaton." *KSR*, 550 U.S. at 420–21. Appellants do not present adequate evidence that the resulting arrangements were "uniquely challenging or difficult for one of ordinary skill in the art" or "represented an unobvious step over the prior art." *See Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR*, 550 U.S. at 418–19).

Accordingly, we agree with the Examiner that applying the Savage and Chaudhuri techniques in the Cutsinger method would have predictably used prior art elements according to their established functions—an obvious improvement. *See KSR*, 550 U.S. a 417.

Because Appellants have not persuaded us the Examiner erred, we sustain the Examiner's rejection of claim 1, and independent claims 30 and 34 for similar reasons.

We also sustain the Examiner's rejection of corresponding dependent claims 2–14 and 31–33, which Appellants do not separately argue.

Separately Argued Dependent Claims

Regarding dependent claim 35, Appellants argue:

> *Cutsinger,* even in view of *Savage* and *Chaudhuri,* does not disclose at least the following limitations recited in dependent claim 35:
>
> [W]here the method is to generate the execution plan graph from the mixed data flow and for execution on the plurality of different types of runtime environments programmatically selected as satisfying a set of predefined criteria;

> wherein the model operators allow for analysis of operations for the mixed data flow, wherein the mixed data flow is received from a user, wherein the operation is selected based on user input, wherein a processing application is programmatically selected, and wherein the processing application and first runtime environment are not selected based on any user input;
>
> wherein the plurality of different types of runtime environments are programmatically selected as satisfying the set of predefined criteria;
>
> wherein the processing application is programmatically determined to satisfy a predefined suitability condition, wherein the suitability condition is satisfied upon identifying a matching runtime environment;
>
> wherein the mixed data flow consists of a plurality of data flows specified in a single request from a user, wherein each data flow in a plurality of data flows is of a distinct data type.
>
> The cited portions of *Cutsinger* generally discuss . . . namespaces for queries and data sources, respectively, *see Cutsinger,* col. 15, lines 15-19. At the same time, even assuming . . . that the data sources in *Cutsinger* correspond to the recited plurality of different runtime environments programmatically selected as satisfying a set of predefined criteria, *Cutsinger* is still silent on any processing application that is programmatically determined to satisfy a predefined suitability condition, where the suitability condition is satisfied upon identifying a matching runtime environment. Further, *Savage* and *Chaudhuri* do not cure these deficiencies of *Cutsinger.*
>
> Further, as discussed above, the rationale of the Office for the proposed modification of *Cutsinger* using *Savage* and *Chaudhuri* is merely conclusory.

App. Br. 16–17.

Appellants have not persuaded us of error. In response to Appellants' arguments, the Examiner provides detailed findings showing Cutsinger, Savage, and Chaudhuri collectively teach the disputed claim limitations. *See*

Ans. 17–18. For example, the Examiner cites Cutsinger's disclosures and explains why "wherein the processing application is programmatically determined to satisfy a predefined suitability condition, wherein the suitability condition is satisfied upon identifying a matching runtime environment" is taught by or would have been obvious in light of Cutsinger's teachings. *See* Ans. 17–18. Appellants fail to persuasively respond to such findings and, therefore, fail to show error in the Examiner's findings. *See Baxter Travenol Labs.*, 952 F.2d at 391.

Further, Appellants' general assertion that the cited references do not teach the disputed claim limitations (App. Br. 16–17) is unpersuasive. *See* 37 C.F.R. § 41.37(c)(1)(iv); *Lovin*, 652 F.3d at 1357.

Finally, as discussed above with respect to claim 1, Appellants have not shown the Examiner's rationale for combining the references is merely conclusory.

Therefore, and for similar reasons discussed above with respect to claim 1, we sustain the Examiner's rejection of claim 35.

Regarding dependent claims 36–39, Appellants have not persuaded us of error. Similar to the discussions above with respect to claim 35, in response to Appellants' arguments (App. Br. 17–28), the Examiner provides detailed findings showing Cutsinger, Savage, and Chaudhuri collectively teach the disputed claim limitations. *See* Ans. 18–21. For example, the Examiner cites prior art disclosures and explains why Cutsinger, Savage, and Chaudhuri collectively teach the disputed claim limitations of claims 36–39. *See* Ans. 18–21. Appellants fail to persuasively respond to such

findings and, therefore, fail to show error in the Examiner's findings. *See Baxter Travenol Labs.*, 952 F.2d at 391.

Further, Appellants' general assertion that the cited references do not teach the disputed claim limitations (App. Br. 17–28) is unpersuasive. *See* 37 C.F.R. § 41.37(c)(1)(iv); *Lovin*, 652 F.3d at 1357.

Finally, as discussed above with respect to claim 1, Appellants have not shown the Examiner's rationale for combining the references is merely conclusory.

Therefore, and for similar reasons discussed above with respect to claim 1, we sustain the Examiner's rejection of dependent claims 36–39.

DECISION

We affirm the Examiner's decision rejecting claims 1–14 and 30–39.

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

AFFIRMED