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michael.wrobel@fisglobal.com
regional-desk@finnegan.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOHN EDWARD O'MALLEY,
MARIA MARGARET LOUGHLIN, YAKOV I. SVERDLOV,
and MARK JEFFREY WAKS

Appeal 2018-003521
Application 13/111,804
Technology Center 3600

Before JENNIFER L. McKEOWN, LINZY T. McCARTNEY, and
JESSICA C. KAISER, *Administrative Patent Judges*.

McCARTNEY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ seeks review under 35 U.S.C. § 134 of the Examiner's
final rejection of claims 1–34. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

¹ Appellant identifies the real party in interest as FIS Financial Compliance Solutions, LLC. Appeal Brief 3, filed October 21, 2016 (“App. Br.”).

BACKGROUND

This patent application concerns “integrating, analyzing and publishing information potentially indicative of fraudulent activity that is received from a plurality of source systems.” Specification 1:7–8, filed May 19, 2011 (“Spec.”). Claims 1, 18, and 32 are independent. Claim 1 illustrates the claimed subject matter:

1. A computer system comprising:

a processor configured to execute an operating system that manages at least a portion of the hardware elements included in the computer system, the processor having access to a networked scenario database comprising a plurality of pattern data associated with fraudulent activity categories;

a network interface in communication with the processor;
and

a memory device in communication with the processor and configured to store instructions,

wherein, when the processor executes the instructions, the processor:

stores, in the memory device, a plurality of data points identified as pertinent to potentially fraudulent activity, the plurality of data points including a first data point received from a first source system and a second data point received from a second source system of a different type from the first source system, wherein the source systems are selected from: a system providing transactional data points, a system providing identification data points, and a system providing fraud-related data points indicative of potentially fraudulent activity;

receives, by a producer interface connected over the network interface to a plurality of source systems, requests to store the plurality of data points, the plurality of source systems including the first source system and the second source system;

compares, by a fraud exchange engine executed by the processor, the first and second data points to at least one of the

pattern data, wherein the fraud exchange engine is configured to execute at least one of: event abstraction, modeling data point hierarchies, or abstracting data point-driven processes;

produces, if the first and second data points match the at least one of the pattern data, a relational data point corresponding to the first and second data points, wherein the relational data point is produced based on the types of source systems for the first and second data points; and

receives, by a consumer interface connected over the network interface to at least one target system, a request to retrieve at least one of a set of the plurality of data points and the at least one relational data point,

wherein the fraud exchange engine communicates with the consumer interface via the network interface to retrieve the at least one relational data point,

wherein the fraud exchange engine causes the producer interface to output, via the network interface, at least a first alert, the first alert implemented as executable code and corresponding to the relational data point, and the first alert being sent to one or more business systems, and

wherein the first alert, when received by the one or more business systems, causes the one or more business systems to suspend, cancel, or release a transaction.

App. Br. 30–31.

REJECTIONS²

Claims	Basis	References
1–14, 16–27, and 29–34	§ 103(a)	Ganti, ³ Larkin, ⁴ and Grell ⁵
15 and 28	§ 103(a)	Ganti, Larkin, Grell, and Hinton ⁶

DISCUSSION

We have reviewed the Examiner’s rejections and Appellant’s arguments, and we disagree with Appellant that the Examiner erred. As consistent with the discussion below, we adopt the Examiner’s reasoning, findings, and conclusions on pages 25–43 of the Final Office Action mailed May 23, 2016 (“Final Act.”) and pages 3–14 of the Examiner’s Answer mailed December 21, 2017. We address Appellant’s arguments in turn.

First, Appellant contends that the Examiner’s combination of Ganti, Larkin, and Grell fails to teach or suggest the following limitation recited in claim 1:

produces, if the first and second data points match the at least one of the pattern data, a relational data point corresponding to the first and second data points, wherein the relational data point is produced based on the types of source systems for the first and second data points.

App. Br. 24–27. Appellant argues that Ganti “is silent with respect to” and “nowhere” teaches this limitation. App. Br. 25 (emphasis omitted). In

² The Examiner withdrew the rejection of claims 1–34 under 35 U.S.C. § 101. Answer 3, mailed December 21, 2017 (“Ans.”).

³ Ganti (US 2012/0158585 A1; June 21, 2012).

⁴ Larkin (WO 2010/095122 A1; August 26, 2010).

⁵ Grell et al. (US 2010/0287361 A1; November 11, 2010).

⁶ Hinton et al. (US 2008/0010665 A1; January 10, 2008).

particular, Appellant contends that Ganti’s “mere mention of an ‘alarm’ does [not] constitute or suggest the production of a relational data point, as claimed.” App. Br. 25. Appellant also asserts that “[t]here is no discussion in Ganti of the relational data point being produced ‘based on the types of source systems,’ as recited in claim 1.” Reply Brief 5, filed February 16, 2018 (“Reply Br.”) (emphases omitted); *see also* App. Br. 25. Appellant argues that neither Larkin nor Grell remedies these deficiencies. *See* App. Br. 26–27.

Appellant has not persuaded us that the Examiner erred. The Examiner found—and we agree—that Ganti teaches producing the recited “relational data point” because Ganti discloses processing transactions (first and second data points) using rules (pattern data), and if the transactions satisfy the rules (if the first and second data points match the at least one of the pattern data), producing an alarm (relational data point), in some cases by aggregating the transactions. *See, e.g.*, Ans. 4–5 (citing Ganti ¶¶ 48–56, 69, 86); *see also* Ganti ¶¶ 36, 42–47, 57, 58, 60–66, 95–99, 105–111.

Although Appellant contends that Ganti’s alarm is not a relational data point, the written description indicates that a relational data point includes a data point produced by aggregating data points or matching data points to a pattern of fraudulent behavior. *See, e.g.*, Spec. 28:15–18 (“[T]he analyses of the first and second data points to produce the relational data point (in act 306) may include accumulating, aggregating, trending and/or adjusting.”), 28:28–30 (“In at least one embodiment, trending of the first and second data point may be performed based on the two data points meeting a pattern of behavior indicating fraudulent activity.”), 29:14–16 (“In one example, the alert may correspond to the relational data point after

aggregating the first data point and the second data point into the relational data point.”). Ganti teaches aggregating transactions into an alarm. *See, e.g.*, Ganti ¶ 69 (“By processing each of transactions T1-T4 using rules in select libraries 610, zero or more alarms may be generated. . . . An alarm may be an aggregation of one or more transactions . . . that share a common attribute.”). Ganti also teaches producing an alarm when transactions match rules that indicate fraudulent activity. *See, e.g.*, Ganti ¶¶ 54 (explaining that “[p]attern recognition rules” include “rules indicative of patterns associated with fraudulent transactions”), 57 (explaining that “[a] rule is triggered when the transaction satisfies the rule”). Given these disclosures and the description of relational data points in the written description, we agree with the Examiner that Ganti’s alarms are relational data points.

As for Appellant’s argument that Ganti does not teach that “the relational data point is produced based on the types of source systems for the first and second data points,” the Examiner concluded that this limitation includes producing relational data points using data points from different types of source systems. *See, e.g.*, Ans. 6–7. Although Appellant argues in passing that “[a] system that processes transactions is different from source systems that produce relational data points,” Reply Br. 5, Appellant has not explicitly challenged the Examiner’s interpretation of the limitation.⁷

Ganti teaches that “the relational data point is produced based on the types of source systems for the first and second data points” under the Examiner’s interpretation of the limitation. Ganti teaches receiving

⁷ We note that the limitation recites that “the relational data point is produced *based on* the types of source systems,” not that the source systems themselves produce relational data points as asserted by Appellant. App. Br. 31.

transaction information from different types of source systems. *See, e.g.*, Ganti ¶¶ 42 (disclosing receiving black and white lists and “historical records of transactions from the merchant or merchant device” and information about “transactions that were processed by a system other than fraud management system 230”), 95 (disclosing receiving, among other things, “information regarding a transaction from another consumer” and “information regarding a transaction from another merchant”). Ganti also teaches processing transaction information using source-specific rules. *See, e.g.*, Ganti ¶¶ 50–56 (describing exemplary rules, including merchant- and customer-specific rules), 57 (providing an example of a transaction satisfying a rule), 60–64 (describing various types of transaction information referred to as “transaction attributes,” including merchant and consumer information), 65–66 (disclosing selecting the rules used to process transactions based in part on transaction attributes), 98 (explaining that transactions can be processed using rules). In light of these teachings, among others, we agree with the Examiner that Ganti teaches that “the relational data point is produced based on the types of source systems for the first and second data points” under the Examiner’s interpretation of the limitation.

Second, Appellant contends that Larkin fails to teach or suggest “the first alert implemented as executable code and corresponding to the relational data point, and the first alert being sent to one or more business systems” and “wherein the first alert, when received by the one or more business systems, causes the one or more business systems to suspend, cancel, or release a transaction.” App. Br. 26. Appellant argues that Larkin’s “[m]ere reception of interrupt data does not constitute or suggest an alert

based on a produced relational data point causing suspension, cancelation, or release of a transaction, as claimed.” App. Br. 26.

Appellant has not persuaded us that the Examiner erred. The Examiner concluded that these limitations would have been obvious over a combination of Ganti’s and Larkin’s teachings. *See, e.g.*, Final Act. 32–33; Ans. 7–8. The Examiner found that Ganti teaches the recited “relational data point,” “first alert corresponding to the relational data point,” and “first alert being sent to one or more business systems.” *See, e.g.*, Final Act. 31–33 (finding that Ganti’s alarm and fraud score respectively teach the recited relational data point and first alert and finding that Ganti’s outputting of a fraud score to a merchant teaches sending the first alert to one or more business systems); Ans. 7 (making similar findings). The Examiner found that Larkin teaches implementing an alert as executable code, where the code causes one or more business systems to suspend, cancel, or release a transaction. *See, e.g.*, Ans. 8 (finding, among other things, that Larkin teaches receiving interrupt data and interrupting the processing of an electronic transaction); Final Act. 32 (making similar findings). The Examiner concluded that a combination of these teachings would have rendered the disputed limitations obvious, *see, e.g.*, Final Act. 32–33, and Appellant’s arguments against Larkin alone has not convinced us that the Examiner erred. “[O]ne cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references.” *In re Keller*, 642 F.2d 413, 426 (CCPA 1981).

Third, Appellant argues for the first time in the Reply Brief that the Examiner erroneously found that Ganti’s fraud score is the recited first alert. *See* Reply Br. 5. Appellant also argues for the first time in the Reply Brief

that the Examiner erroneously found that Ganti's disclosure of using the alert to assist a merchant in determining whether to accept, deny, or fulfill a transaction is the same as causing a system to suspend a transaction as required by claim 1. *See* Reply Br. 5.

Appellant forfeited these arguments by failing to raise them in the Appeal Brief. The Examiner first made the finding that Appellant challenges in the Final Office Action. *Compare* Final Act. 32 (finding that Ganti teaches a first alert that *influences* business systems to suspend, cancel, or release a transaction because Ganti teaches "fraud scores [that] assist merchant[s] in determining whether to accept, deny, or fulfill [a] transaction" (emphasis omitted)), *with* Reply Br. 5 (stating that "the Examiner asserts that 'fraud scores [which] assist merchant in determining whether to accept, deny, or fulfill transaction' constitutes the claimed 'first alert' that 'causes the one or more business systems to suspect, cancel, or release a transaction.'" (alteration in original)). Yet Appellant waited until the Reply Brief to explicitly raise these arguments and did not explain why Appellant failed to raise the arguments earlier. *See* Reply Br. 5. Appellant has therefore forfeited these arguments. *See* 37 C.F.R. §§ 41.37(c)(1)(iv) (explaining that with exceptions inapplicable here, "any arguments or authorities not included in the appeal brief will be refused consideration by the Board for purposes of the present appeal"), 41.41(b)(2) ("Any argument raised in the reply brief which was not raised in the appeal brief . . . will not be considered by the Board for purposes of the present appeal, unless good cause is shown.").

Even if Appellant had timely raised these arguments, we would have found them unpersuasive. As discussed above, the Examiner found that the

recited first alert would have been obvious over the combined teachings of Ganti and Larkin. *See, e.g.*, Final Act. 32–33; Ans. 7–8. In particular, the Examiner found that Larkin teaches implementing an alert as executable code, where the code causes one or more business systems to suspend, cancel, or release a transaction. *See, e.g.*, Final Act. 32; Ans. 8. Appellant’s argument that Ganti’s fraud score alone does not teach or suggest the recited first alert does not persuade us that the Examiner erred. *See Keller*, 642 F.2d at 426.

Fourth, Appellant argues that Grell does not teach “compar[ing], by a fraud exchange engine executed by the processor, the first and second data points to at least one of the pattern data, wherein the fraud exchange engine is configured to execute at least one of: event abstraction, modeling data point hierarchies, or abstracting data point-driven processes.” App. Br. 27. In the Appeal Brief, Appellant summarizes the Examiner’s findings about Grell and states that “Appellant disagrees with [the Examiner’s] assertions.” App. Br. 27. Appellant also emphasizes certain language in the disputed limitation and argues, without explanation, that Grell fails to teach the emphasized language. *See* App. Br. 27. In the Reply Brief, Appellant asserts for the first time that Grell’s “complex event processing is not event abstraction.” Reply Br. 5.

Appellant has not persuaded us that the Examiner erred. The Examiner concluded that this limitation would have been obvious over a combination of Ganti’s and Grell’s teachings. *See* Final Act. 30–33; Ans. 9–11. The Examiner found that Ganti teaches a fraud exchange engine that compares first and second data points to pattern data. *See, e.g.*, Final Act. 30–31 (finding that Ganti teaches the recited fraud exchange engine because

Ganti discloses a component that processes transactions using rules). The Examiner found that Grell teaches using complex event processing to execute at least one of event abstraction, modeling data point hierarchies, or abstracting data point-driven processes. *See, e.g.*, Final Act. 33 (finding that Grell teaches executing the recited operations because Grell teaches that complex event processing is used in fraud detection and that complex event processing operations include abstracting events). The Examiner concluded that a combination of these teachings would have rendered the disputed limitation obvious. *See* Final Act. 30–33; Ans. 9–11.

Although in the Appeal Brief Appellant disagrees with the Examiner’s findings about Grell, Appellant does not explicitly state in the Appeal Brief the basis for the disagreement or persuasively explain why the Examiner’s combination of Ganti and Grell fails to teach or suggest the disputed limitation. *See* App. Br. 27. We thus find Appellant’s assertions in the Appeal Brief unpersuasive. *See Keller*, 642 F.2d at 426. As for the Reply Brief, Appellant forfeited the argument that Grell’s complex event processing is not event abstraction. The Examiner found in the Final Office Action that Grell teaches using complex event processing to execute at least one of event abstraction, modeling data point hierarchies, or abstracting data point-driven processes. *See, e.g.*, Final Act. 33. But Appellant waited until the Reply Brief to argue that Grell’s complex event processing is not event abstraction and did not explain the delay in raising the argument. *See* Reply Br. 6. Appellant has thus forfeited this argument. *See* 37 C.F.R. §§ 41.37(c)(1)(iv), 41.41(b)(2). In any event, Grell discloses that “[c]omplex event processing is a method of computing that performs operations on complex events,” “examples of complex event processing include . . . fraud

detection,” and “[o]perations performed on the events in a complex event processor can include . . . *abstracting the events.*” Grell ¶ 1 (emphasis added). Given these disclosures, Appellant’s arguments do not persuade us of any error in the Examiner’s findings about Grell. *See* Final Act. 33.

Fifth, Appellant argues that the Examiner “pointed out nothing in the prior art that would motivate one of skill in the art to modify the teachings of the prior art to achieve the claimed combination. Accordingly, no reason has been articulated as to why one of skill in the art would find the claimed combination obvious in view of the prior art.” App. Br. 28.

Appellant has not persuaded us that the Examiner erred. The Examiner explicitly provided motivations for combining the teachings of Ganti, Larkin, and Grell to arrive at the claimed invention. The Examiner found that one of ordinary skill in the art would have been motivated to modify Ganti’s fraud management system to include Larkin’s interrupt data because doing so would provide Ganti’s system “with instructions to interrupt a processing of the transaction.” Ans. 12 (emphasis omitted). The Examiner found that one of ordinary skill in the art would have been further motivated to modify this combination with Grell’s complex event processing because the modification “would help Ganti’s fraud detection system derive or infer significant output events from a large number of input events.” Ans. 13 (quotation mark and emphasis omitted).

For the above reasons, we find unpersuasive Appellant’s arguments that the Examiner has not shown that the combination Ganti, Larkin, and Grell teaches or suggests the limitations recited in claim 1. We thus sustain the Examiner’s rejection of claim 1. Because Appellant has not provided

separate arguments for claims 2–34, we also sustain the Examiner’s rejections of these claims.

CONCLUSION

Claims	Basis	References	Affirmed	Reversed
1–14, 16–27, and 29–34	§ 103(a)	Ganti, Larkin, and Grell	1–14, 16–27, and 29–34	
15 and 28	§ 103(a)	Ganti, Larkin, Grell, and Hinton	15 and 28	
Outcome			1–34	

No period for taking any 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