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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MARK ALLEN NELSEN,
NANCY THERESE HILGERS, MITCHELL L. WRIGHT, and
PAWAN KUMAR

Appeal 2017-006490
Application 12/217,419¹
Technology Center 3600

Before: LARRY J. HUME, SCOTT B. HOWARD, and
JOHN D. HAMANN, *Administrative Patent Judges*.

HUME, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) of the Final Rejection of claims 1, 2, 4–22, and 24–29, which are all claims pending in the application. Appellants have canceled claims 3 and 23. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ According to Appellants, the real party in interest is Visa U.S.A. Inc. Br. 3.

STATEMENT OF THE CASE²

The Invention

Appellants' disclosed embodiments and claimed "invention relate in general to financial services. Aspects include a financial fraud prevention apparatus, system, method and computer-readable storage medium configured to import fraud prevention rules from an issuer and implement them in real-time at a payment processor." Spec. 2, ll. 1–4 ("Field of the Invention").

Exemplary Claim

Claim 1, reproduced below, is representative of the subject matter on appeal (*emphases* added to contested prior-art limitations):

1. An issuer fraud prevention apparatus located at an issuer, the apparatus comprising:

a computer processor comprising:

a rule editor configured to create or edit a fraud prevention rule;

[L1] *a rule test engine configured to:*

receive the fraud prevention rule from the rule editor,

retrieve known fraudulent transaction data from a local card database, the known fraudulent transaction data corresponding to the issuer's historical fraudulent transactions,

² Our decision relies upon Appellants' Appeal Brief ("Br.," filed Apr. 18, 2016); Examiner's Answer ("Ans.," mailed Dec. 15, 2016); Final Office Action ("Final Act.," mailed Nov. 20, 2015); and the original Specification ("Spec.," filed July 3, 2008). We note Appellants did not file a Reply Brief in response to the factual findings and legal conclusions in the Examiner's Answer.

test the fraud prevention rule against the known fraudulent transaction data,

generate authorization response data indicating whether the issuer's historical fraudulent transactions would be authorized if the fraud prevention rule were applied to the known fraudulent transaction data, format the authorization response data as a results file,

output the results file,

compare the results file against the known fraudulent transaction data, and

determine that the fraud prevention rule detects the issuer's historical fraudulent transactions based on the comparison;

[L2] *a computer network interface, coupled to the computer processor, configured to:*

export the fraud prevention rule from the issuer to a payment processing network, and

receive a notification message from the payment processing network confirming activation of the fraud prevention rule by the payment processing network; and

[L3] *a transaction case queue configured to receive a list of flagged transactions from the payment processing network, the list of flagged transactions being flagged by the payment processing network as a result of applying the fraud prevention rule in real time to the transactions included in the list of flagged transactions.*

Prior Art

The Examiner relies upon the following prior art as evidence in rejecting the claims on appeal:

Keithley et al. ("Keithley")	US 2006/0226216 A1	Oct. 12, 2006
Kranzley	US 2008/0021829 A1	Jan. 24, 2008
Zhou et al. ("Zhou")	US 2008/0270303 A1	Oct. 30, 2008

Rejections on Appeal

R1. Claims 1, 2, 4–22, and 24–29 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Final Act. 2.

R2. Claims 1, 2, 4–22, and 24–29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Keithley, Kranzley, and Zhou. Final Act. 5.

CLAIM GROUPING

Based on Appellants' arguments (Br. 8–26), we decide the appeal of patent-ineligible subject matter Rejection R1 of claims 1, 2, 4–22, and 24–29 on the basis of representative claim 1; and we also decide the appeal of obviousness Rejection R1 of claims 1, 2, 4–22, and 24–29 on the basis of representative claim 1.³

³ "Notwithstanding any other provision of this paragraph, the failure of appellant to separately argue claims which appellant has grouped together shall constitute a waiver of any argument that the Board must consider the patentability of any grouped claim separately." 37 C.F.R. § 41.37(c)(1)(iv). In addition, when Appellants do not separately argue the patentability of dependent claims, the claims stand or fall with the claims from which they depend. *In re King*, 801 F.2d 1324, 1325 (Fed. Cir. 1986).

ISSUES AND ANALYSIS

In reaching this decision, we consider all evidence presented and all arguments actually made by Appellants. To the extent Appellants have not advanced separate, substantive arguments for particular claims, or other issues, such arguments are waived. 37 C.F.R. § 41.37(c)(1)(iv).

We disagree with Appellants' arguments with respect to claims 1, 2, 4–22, and 24–29 and, unless otherwise noted, we incorporate by reference herein and adopt as our own: (1) the findings and reasons set forth by the Examiner in the action from which this appeal is taken, and (2) the reasons and rebuttals set forth in the Examiner's Answer in response to Appellants' arguments. We highlight and address specific findings and arguments regarding claim 1 for emphasis as follows.

1. § 101 Rejection R1 of Claims 1, 2, 4–22, and 24–29

Issue 1

Appellants argue (Br. 8–20) the Examiner's rejection of claim 1 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter is in error. These contentions present us with the following issue:

Under our governing case law concerning 35 U.S.C. § 101, did the Examiner err in concluding claim 1 is directed to a judicial exception, i.e., an abstract idea, without significantly more?

Analysis

Alice Framework

Section 101 provides that anyone who "invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any

new and useful improvement thereof" may obtain a patent. 35 U.S.C. § 101. The Supreme Court has repeatedly emphasized that patent protection should not extend to claims that monopolize "the basic tools of scientific and technological work." *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71 (2012); *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014). Accordingly, laws of nature, natural phenomena, and abstract ideas are not patent-eligible subject matter. *Alice Corp.*, 134 S. Ct. at 2354.

The Supreme Court's two-part *Alice* framework guides us in distinguishing between patent claims that impermissibly claim the "building blocks of human ingenuity" and those that "integrate the building blocks into something more." *Alice Corp.*, 134 S. Ct. at 2354 (internal quotation marks, citation, and bracketing omitted). First, we "determine whether the claims at issue are directed to [a] patent-ineligible concept[]." *Id.* at 2355. If so, we "examine the elements of the claim to determine whether it contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Id.* at 2357 (quoting *Mayo*, 566 U.S. at 72, 79). Although the two steps of the *Alice* framework are related, the "Supreme Court's formulation makes clear that the first-stage filter is a meaningful one, sometimes ending the § 101 inquiry." *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016). We note the Supreme Court "has not established a definitive rule to determine what constitutes an 'abstract idea'" for the purposes of step one. *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1334 (Fed. Cir. 2016) (citing *Alice*, 134 S. Ct at 2357).

In *Enfish*, our reviewing court held claims directed to a self-referential logical model for a computer database patent-eligible under step one of

Alice. *Enfish*, 822 F.3d at 1330. The disclosed technique enabled faster searching and more effective storage of data than previous methods. *Id.* at 1333. The court found the claims directed to "a specific improvement to the way computers operate, embodied in the self-referential table" (*id.* at 1336), and explained that the claims are "not simply directed to *any* form of storing tabular data, but instead are specifically directed to a *self-referential table* for a computer database" that functions differently than conventional databases. *Id.* at 1337.

In *McRO*, the claims were not held to be abstract because they recited a "specific . . . improvement in computer animation" using "unconventional rules that relate[d] sub-sequences of phonemes, timings, and morph weight sets." *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1302–03, 1307–08, 1314–15 (Fed. Cir. 2016). In *McRO*, "the incorporation of the claimed rules, not the use of the computer," improved an existing technological process. *Id.* at 1314.

However, our reviewing court has held claims ineligible as directed to an abstract idea when they merely collect electronic information, display information, or embody mental processes that could be performed by humans. *Elec. Power Grp.*, 830 F.3d at 1353–54 (collecting cases). At the same time, "all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas." *Mayo*, 566 U.S. at 71. Abstract ideas may include, but are not limited to, fundamental economic practices, methods of organizing human activities, an idea of itself, and mathematical formulas or relationships. *Alice* 134 S. Ct. at 2355–57. Under this guidance, we must therefore ensure at step one that we articulate what the claims are directed to with enough specificity to ensure

the step one inquiry is meaningful. *Id.* at 2354 ("[W]e tread carefully in construing this exclusionary principle lest it swallow all of patent law.").

Under the "abstract idea" step we must evaluate "the 'focus of the claimed advance over the prior art' to determine if the claim's 'character as a whole' is directed to excluded subject matter." *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016) (internal citation omitted). If the claims are not directed to a patent-ineligible concept, the inquiry ends. *See Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1262 (Fed. Cir. 2017). If the concept is directed to a patent-ineligible concept, we proceed to the "inventive concept" step. For that second step we must "look with more specificity at what the claim elements add, in order to determine 'whether they identify an "inventive concept" in the application of the ineligible subject matter' to which the claim is directed." *Affinity Labs*, 838 F.3d at 1258 (quoting *Elec. Power Grp.*, 830 F.3d at 1353).

Alice Step 1 — Abstract Idea

The Examiner concludes the claims are directed to the abstract idea of creating, testing, and implementation of a fraud prevention rule, i.e., "using computers such as performance of financial transactions (buySAFE) and mitigating risk (Bilski)." Final Act. 4.

Appellants generally contend the claims are not directed to an abstract idea because "independent claims 1, 8 and 15 are not directed to any fundamental economic practice, method of organizing human activity, idea of itself, or mathematical formula." Br. 10. Appellants provide additional arguments concerning each of these generalized abstract idea categories. Br. 10–15.

More specifically, Appellants argue, "in accordance with the Federal Circuit's holding in *DDR Holdings*, the claimed invention cannot be directed to such an economic practice since it is 'necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.'"⁴ Br. 10 (citations omitted).

Appellant submits that independent claims 1, 8 and 15 of the present application are analogous to the patent-eligible claims in *DDR Holdings*, since the inventions defined by claims 1, 8 and 15 are also necessarily rooted in computer technology to overcome a problem arising specifically in the realm of computer systems and networks. As described at page 1 of the specification, the present invention solves the problem of issuers having to incorporate considerable technical infrastructure to detect fraudulent electronic payment transactions over a payment network. This is a problem specific to computer technology with no pre-computer analog.

App. Br, 11.⁵

Appellants' reliance on *DDR* (App. Br. 10–13) is misplaced as the recited claims do not improve the computer. In *DDR*, the claims at issue involved, *inter alia*, "web pages displays [with] at least one active link associated with a commerce object associated with a buying opportunity of a selected one of a plurality of merchants" (claim 1 of US 7,818,399). The Federal Circuit found the claims in *DDR* to be patent-eligible under step one of the *Alice* test because "the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks." *DDR Holdings*, 773 F.3d at 1257.

⁴ See *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014).

⁵ We note page 1 of the Specification cited by Appellants is the coversheet that includes the title, inventors, and attorney docket number.

Specifically, the Federal Circuit found the claims addressed the "challenge of retaining control over the attention of the customer in the context of the Internet." *Id.* at 1258.

Appellants allege "[t]he claimed invention addresses the challenges associated with existing techniques for detecting fraud in electronic payment transactions over a network, such techniques requiring issuers to incorporate significant computerized infrastructure, and to maintain and utilize such infrastructure, in preventing fraud." Br. 12. However, we find the rejected claims are dissimilar to *DDR's* web page with an active link, and the Specification does not support the view that the recited *computer related* claim elements in the claims on appeal are unconventional.⁶

Under the "abstract idea" step we must evaluate "the 'focus of the claimed advance over the prior art' to determine if the claim's 'character as a whole' is directed to excluded subject matter." *Affinity Labs*, 838 F.3d at 1257 (citation omitted).

Turning to the claimed invention, claim 1 recites, "[a]n issuer fraud prevention apparatus located at an issuer." Claim 1 (preamble).

⁶ Appellants argue the "generation and reformatting of data requires the use of a specially programmed computer with no corollary in the pre-computer world." Br. 13. Mere attorney arguments and conclusory statements that are unsupported by factual evidence are entitled to little probative value. *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997); *see also In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984); *Ex parte Belinne*, No. 2009-004693, slip op. at 7–8 (BPAI Aug. 10, 2009) (informative), available at <http://www.uspto.gov/web/offices/dcom/bpai/its/fd09004693.pdf>. Further, "Argument in the brief does not take the place of evidence in the record." *In re Schulze*, 346 F.2d 600, 602 (CCPA 1965) (citing *In re Cole*, 326 F.2d 769, 773 (CCPA 1964)).

Apparatus claim 1's limitations also require:

"a computer processor" that includes "a rule editor," and
"a rule test engine" that:

"receive[s] the fraud prevention rule,"

"retrieve[s] known fraudulent transaction data . . .
corresponding to the issuer's historical fraudulent
transactions",

"test[s] the fraud prevention rule against the known
fraudulent transaction data,"

"generate[s] authorization response data,"

"format[s] the authorization response data as
a results file,"

"output[s] the results file,"

"compare[s] the results file against the
known fraudulent transaction data," and

"determine[s] that the fraud prevention rule
detects the issuer's historical fraudulent
transactions based on the comparison;"

"a computer network interface" that:

"export[s] the fraud prevention rule from the
issuer to a payment processing network," and

"receive[s] a notification message from the
payment processing network confirming activation
of the fraud prevention;" and

"a transaction case queue" that "receive[s] a list of
flagged transactions . . . flagged by the payment processing
network as a result of applying the fraud prevention rule in real
time to the transactions included in the list of flagged
transactions."

Our reviewing courts have often identified abstract ideas by referring to earlier precedent, e.g., by comparing a claimed concept to the concepts previously identified as abstract ideas by the courts. *Amdocs (Israel), Ltd. v.*

Openet Telecom, Inc., 841 F.3d 1288, 1294 (Fed. Cir. 2016); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d. at 1334. For example, in *Alice*, the Supreme Court identified the claimed systems and methods as describing the concept of intermediated settlement, and then compared this concept to the risk hedging concept identified as an abstract idea in *Bilski*. Because this comparison revealed "no meaningful distinction between the concept of risk hedging in *Bilski* and the concept of intermediated settlement at issue here", the Court concluded that the concept of intermediated settlement was an abstract idea. *Alice*, 134 S. Ct. at 2356-57. Similarly, the Federal Circuit in *Amdocs* compared the claims at issue with "eligible and ineligible claims of a similar nature from past cases" as part of its eligibility analysis. *Amdocs*, 841 F.3d at 1295–1300.

We particularly note the Federal Circuit's earlier precedent in *FairWarning* in which collecting and analyzing information to detect fraudulent activity (misuse) and notifying a user when misuse is detected was held as being directed to an abstract idea, e.g., "an idea 'of itself.'" As held in *FairWarning*, "[t]he claim limitations, analyzed alone and in combination, fail to add 'something more' to 'transform' the claimed abstract idea of collecting and analyzing information to detect misuse into 'a patent-eligible application.'" *FairWarning IP, LLC v. Iatric Systems, Inc.*, 839 F.3d 1089, 1095 (Fed. Cir. 2016) (citing *Alice*, 134 S. Ct. at 2354, 2357) (emphasis added).

Under step one, we agree with the Examiner that the invention claimed in independent claim 1 is directed to an abstract idea, i.e., the abstract idea of creating, testing, and implementation of a fraud prevention rule. *See* Ans. 3.

As the Specification discloses, "[a]spects of the present invention relate in general to financial services [and] include a financial fraud prevention apparatus, system, method and computer-readable storage medium configured to import fraud prevention rules from an issuer and implement them in real-time at a payment processor." Spec. 2, ll. 4–7⁷ We find this type of activity, i.e., implementation of financial fraud enforcement rules, for example, includes longstanding conduct that existed well before the advent of computers and the Internet, and could be carried out by a human with pen and paper. *See CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375 (Fed. Cir. 2011) ("That purely mental processes can be

⁷ *See also* Spec. 21 ("Abstract"):

A system, method, and computer-readable storage medium configured to import fraud prevention rules from an issuer and implement them in real-time at a payment processor. Usually, a card issuing bank either approves or declines financial transaction; however, in embodiments of the present invention, the issuing bank creates fraud prevention rules, and the payment processor implements the created rules. A payment processor apparatus comprises a network interface, and a verification engine. The verification engine includes a transaction driver, and a real time decisioning processor. The network interface is configured to receive a fraud prevention rule from a payment card issuing bank, and to receive a proposed financial transaction from an acquiring bank. The transaction driver receives the fraud prevention rule. The real time decisioning processor compares the proposed financial transaction from the acquirer and the fraud prevention rule to determine whether the proposed financial transaction should be declined.

unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in *Gottschalk v. Benson*.").⁸

Our reviewing court has previously held other patent claims ineligible for reciting similar abstract concepts. For example, while the Supreme Court has enhanced the § 101 analysis since *CyberSource* in cases like *Mayo* and *Alice*, the Federal Circuit continues to "treat[] analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category." *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1146–47 (Fed. Cir. 2016) (alteration in original) (quoting *Elec. Power Grp.*, 830 F.3d at 1354).

In addition, the Federal Circuit has concluded that abstract ideas include the concepts of collecting data, recognizing certain data within the collected data set, and storing the data in memory. *Content Extraction & Transmission LLC v. Wells Fargo Bank, N.A.*, 776 F.3d 1343, 1347 (Fed. Cir. 2014). Additionally, the collection of information and analysis of information (e.g., recognizing certain data within the dataset) are also abstract ideas. *Elec. Power*, 830 F.3d at 1353–54 (collecting information and "analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, [are] essentially mental processes within the abstract-idea category"). Similarly, "collecting, displaying, and manipulating data" is an abstract idea. *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1340 (Fed. Cir. 2017). Also,

⁸ *CyberSource* further guides that "a method that can be performed by human thought alone is merely an abstract idea and is not patent-eligible under § 101." *CyberSource*, 654 F.3d at 1373.

collecting and comparing known information has been determined to be an abstract idea. *Classen Immunotherapies, Inc. v. Biogen IDEC*, 659 F.3d 1057, 1067 (Fed. Cir. 2011) ("Claim 1 of the #283 patent states the idea of collecting and comparing known information"). Further, a process that employs mathematical algorithms to manipulate existing information to generate additional information is abstract. *Digitech Image Techs., LLC v. Elec. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014). Also, more recently, our reviewing court has also concluded that acts of parsing, comparing, storing, and editing data are abstract ideas. *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1367 (Fed. Cir. 2018).

Appellant also alleges claim 1 is patent-eligible because its practice does not preempt practice by others. Br.18. We agree with the Examiner's response, which we incorporate herein by reference. Ans. 4. Regarding preemption, "[w]hile preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility Where a patent's claims are deemed only to disclose patent ineligible subject matter under the *Mayo* framework, as they are in this case, preemption concerns are fully addressed and made moot." *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015); *see also OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015) ("that the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract").

Therefore, in agreement with the Examiner, we conclude claim 1 involves nothing more than identifying, collecting, storing, comparing, and

generating data, without any particular inventive technology — an abstract idea. *See Elec. Power Grp.*, 830 F.3d at 1354.⁹

Accordingly, on this record, and under step one of *Alice*, we agree with the Examiner's conclusion the claims are directed to an abstract idea.

Alice Step 2—Inventive Concept

If the claims are directed to a patent-ineligible concept, as we conclude above, we proceed to the "inventive concept" step. For that step we must "look with more specificity at what the claim elements add, in order to determine 'whether they identify an "inventive concept" in the application of the ineligible subject matter' to which the claim is directed." *Affinity Labs*, 838 F.3d at 1258 (quoting *Elec. Power Grp.*, 830 F.3d at 1353).

In applying step two of the *Alice* analysis, our reviewing court guides we must "determine whether the claims do significantly more than simply describe [the] abstract method" and thus transform the abstract idea into patentable subject matter. *Ultramarical, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014). We look to see whether there are any "additional features" in the claims that constitute an "inventive concept," thereby rendering the claims eligible for patenting even if they are directed to an abstract idea. *Alice*, 134 S. Ct. at 2357. Those "additional features" must be more than "well-understood, routine, conventional activity." *Mayo*, 566 U.S. at 79.

⁹ Merely automating previously manual processing by using computers does not qualify as an eligibility-rejection-defeating improvement. *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044 (Fed. Cir. 2017).

Limitations referenced in *Alice* that are not enough to qualify as “significantly more” when recited in a claim with an abstract idea include, as non-limiting or non-exclusive examples: adding the words “apply it” (or an equivalent) with an abstract idea;¹⁰ mere instructions to implement an abstract idea on a computer;¹¹ or requiring no more than a generic computer to perform generic computer functions that are well-understood, routine and conventional activities previously known to the industry.¹²

Evaluating representative claim 1 under step 2 of the *Alice* analysis, we agree with the Examiner that it lacks an inventive concept that transforms the abstract idea of fraud prevention into a patent-eligible application of that abstract idea. *See* Ans. 4–5.¹³

The Examiner further concludes “[t]here is no indication that the combination of elements improves the functioning of a computer or improves any other technology and their collective functions merely provide conventional computer implementation.” Ans. 5.

¹⁰ *Id.* at 2357–58.

¹¹ *Id.*: *e.g.*, simply implementing a mathematical principle on a physical machine, namely a computer (citing *Mayo*, 566 U.S. at 84–85).

¹² *Id.* at 2359: *e.g.*, using a computer to obtain data, adjust account balances, and issue automated instructions.

¹³ The Examiner concludes:

The computer processor, the rule editor and the rule test engine are recited at a high level of generality and are recited as performing generic computer functions routinely used in computer applications. Generic computer components recited as performing generic computer functions that are well-understood, routine and conventional activities amount to no more than implementing the abstract idea with a computerized system.

Ans. 4.

We agree with the Examiner and note the patent eligibility inquiry may contain underlying issues of fact. *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1325 (Fed. Cir. 2016). In particular, "[t]he question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact." *Berkheimer*, 881 F.3d at 1368.

As evidence of the conventional nature of the claimed apparatus components and processes, we highlight Appellants' Specification. *See* Spec. 7, ll. 4–21; 8, ll. 1–18, 1. 24–9, 1. 21. For example:

It is understood by those known in the art that the issuer computing device 1400 may be configured on any computing device, such as a workstation, personal computer, mini-computer, mainframe, or other computing device known in the art. For illustrative purposes only, we will assume that the computing device located at the issuer 1400 is a computer workstation.

Issuer 1400 may run a multi-tasking operating system (OS) and include at least one processor or central processing unit 1410. Processor 1410 may be any central processing unit, microprocessor, micro-controller, computational device or circuit known in the art. It is further understood that processor 1410 does not have to be the same model or make as processor 1310.

Spec. 8, ll. 1–10.

We agree with the Examiner that the claim limitations may be broadly but reasonably construed as reciting conventional computer components and

techniques, particularly in light of Appellants' Specification, as quoted above.¹⁴

With respect to the Step 2 analysis, we agree with the Examiner because, as in *Alice*, the recitation of an "issuer fraud prevention apparatus located at an issuer" using a "processor" that includes "a rule editor," and "a rule test engine" (claim 1) is simply not enough to transform the patent-ineligible abstract idea here into a patent-eligible invention. *See Alice*, 134 S. Ct. at 2357 ("[C]laims, which merely require generic computer implementation, fail to transform [an] abstract idea into a patent-eligible invention.").

Accordingly, based upon the findings above, on this record, we are not persuaded of error in the Examiner's conclusion that the appealed claims are directed to patent-ineligible subject matter. Therefore, we sustain the Examiner's § 101 rejection of independent claim 1, and grouped claims 2, 4–22, and 24–29, not argued separately, and which fall therewith. *See Claim Grouping, supra*.

¹⁴ During prosecution, claims must be given their broadest reasonable interpretation when reading claim language in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). Under this standard, we interpret claim terms using "the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification." *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

2. § 103 Rejection R2 of Claims 1, 2, 4–22, and 24–29

Issue 2

Appellants argue (Br. 20–26) the Examiner's rejection of claim 1 under 35 U.S.C. § 103(a) as being obvious over the combination of Keithley, Kranzley, and Zhou is in error. These contentions present us with the following issues:

Did the Examiner err in finding the cited prior art combination teaches or suggests "[a]n issuer fraud prevention apparatus located at an issuer" that includes, *inter alia*, the following limitations:

[L1] a rule test engine configured to . . . *test the fraud prevention rule* against the known fraudulent transaction data, *generate authorization response data* indicating whether the issuer's historical fraudulent transactions would be authorized if the fraud prevention rule were applied to the known fraudulent transaction data, *format the authorization response data as a results file . . . compare the results file against the known fraudulent transaction data, and determine that the fraud prevention rule detects the issuer's historical fraudulent transactions based on the comparison;*

[L2] a computer network interface, coupled to the computer processor, configured to [] export the fraud prevention rule from the issuer to a payment processing network,

[L3] a transaction case queue configured to receive a list of flagged transactions from the payment processing network, as recited in claim 1?

Analysis

The test for obviousness is what the combined teachings of the prior art would have suggested to the hypothetical person of ordinary skill in the

art. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). Appellants have not challenged the combinability of the teachings of Keithley, Kranzley, and Zhou.

During prosecution, claims must be given their broadest reasonable interpretation when reading claim language in light of the specification as it would be interpreted by one of ordinary skill in the art. Under this standard, we interpret claim terms using "the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification." *Morris*, 127 F.3d at 1054.

Limitation L1: Rule Test Engine Functionality

Contrary to the Examiner's findings (Final Act. 5), Appellants contend Keithley's transaction data set 22 merely describes "a current transaction conducted between consumer 12 and entity 14 [while the] independent claims . . . require that known fraudulent transaction data '*corresponding to the issuer's historical fraudulent transactions*' be retrieved from a database, and that the fraud prevention rule be tested against this historical transaction data." Br. 22.

In response, the Examiner finds (Ans. 6) Keithley discloses authorization denial system 18:

[A]uthorization denial system 18 includes an authorization denial system interface 20 for receiving a transaction data set 22 from the entity 14, and the transaction data set 22 includes multiple data fields 24 therein. The authorization denial system 18 also includes a denial rule set 26 having multiple rules 28. The denial rule set 26 outputs the risk data 16 based upon the

application of one or more of the rules 28 in the denial rule set 26 to one or more of the data fields 24 in the transaction data set 22.

Keithley ¶ 31. The Examiner further finds transaction data set 22 comprises consumer account history in data fields 24 which includes user transaction history, specifically historical fraudulent transactions, and which the Examiner concludes, under the broadest reasonable interpretation, discloses testing the fraud prevention rule against the recited "known fraudulent transaction data." Ans. 6 (citing Keithley ¶ 34 ("data fields 24 may be populated with data reflecting . . . a third-party risk score, risk data, . . . credit risk data, fraud risk data, transaction risk data, denial data, . . . previous transaction data . . . delinquency data . . . consumer account history . . . etc.")).

Thus, we agree with the Examiner that the data set in Keithley teaches or suggests storing not only current transactions, but also testing the fraud prevention rule against stored "known fraudulent transaction data."

Appellants further argue

The cited art, alone or in combination, also fails to teach or suggest a rule test engine configured to "*generate authorization response data indicating whether the issuer's historical fraudulent transactions would be authorized if the fraud prevention rule were applied to the known fraudulent transaction data,*" to "*format the authorization response data as a results file,*" to "*output the results file,*" to "*compare the results file against the known fraudulent transaction data,*" and to "*determine that the fraud prevention rule detects the issuer's historical fraudulent transactions based on the comparison,*" as further recited by independent claim 1.

App. Br. 22–23.

The Examiner finds:

The authorization denial system interface transmits the resulting risk data to the entity" [0019], and further Keithley discloses "transmitting the transaction data set to a risk analysis system if the resulting risk data indicates that the transaction should not be denied based upon the applied rule", [0023]. It is interpreted under broadest reasonable interpretation that the outputting and transmitting of data sets is to be carried out either as individual data fields or as a group in the form of a file.

Ans. 8.

We note Appellants do not file a Reply Brief to rebut the Examiner's findings about Keithley's teachings and suggestions regarding the functional limitations associated with the recited rule test engine. On this record, we agree with the Examiner that Keithley teaches or at least suggests the recitations of limitation L1.

Limitation L2: Computer Network Interface Functionality

Limitation L2 of claim 1 recites, in pertinent part, "a computer network interface, coupled to the computer processor, configured to [] export the fraud prevention rule from the issuer to a payment processing network."

Appellants contend:

[E]ven if the rejection consistently relied upon denial rule set 26 for teaching the claimed fraud prevention rule, authorization denial system 18 does not transmit denial rule set 22 at all. Instead, as summarized above, authorization denial system 18 uses denial rule set 22 to generate risk data 16 in the first place. Risk data 16 is transmitted to entity 14, but denial rule set 22 is not.

Appellant further notes that independent claims 1, 8 and 15 require that the fraud prevention rule be exported by the

issuer to a "*payment processing network*." At page 6 of the Final Office Action, the Examiner concedes that Keithley does not disclose transmitting risk data 16 to a payment processing network, and instead cites to Kranzley. At best, however, Kranzley merely discloses that a customer can supply account-selection rules to a payment card association, and that the rules determine which of the customer's payment accounts is to be used for a given transaction.

Br. 24.

Nonobviousness cannot be established by attacking the references individually when the rejection is predicated upon a combination of prior art disclosures. *See In re Merck & Co. Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986).

Although the Examiner acknowledges that Keithley does not explicitly teach or suggest forwarding risk data to a payment processing network (Final Act. 6), the Examiner further finds:

Kranzley teaches the presence of a Processing network ("payment card association", [0016]) which receives the error free data ("submit information to the server computer 108 to define rules that are applied to each of the customers' payment card transactions to determine which account is to be used for the transaction in question", [0016]) before being forwarded to the processor 125.

Id. (citing Kranzley ¶ 16). Based on the above, we agree with the Examiner's determination that Kranzley teaches or at least suggests limitation L2, i.e., forwarding of transaction risk data to a payment processing network.

We agree with the Examiner because, as found by the Examiner:

[I]t would have been obvious to a person having ordinary skill in the art at the time of the invention to modify the system of

Keithley to include the presence of processing network as per the teachings of Kranzley in developing a fraud prevention system, thus enabling various transaction processing systems present on the processing network to be part of the fraud prevention system, with neither undue experimentation nor unexpected results.

Final Act. 7.

Limitation L3: Transaction Case Queue Functionality

Limitation L3 of claim 1 recites, in pertinent part, "a transaction case queue configured to receive a list of flagged transactions from the payment processing network." The Examiner cites Kranzley paragraph 54 as teaching or suggesting this limitation. Final Act. 7.

Appellants contend:

At best, however, the cited portion of Kranzley merely discloses that the payment card association applies a rule to select a customer account and then informs the account issuer of the selected account. Appellant submits that no "*list of flagged transactions*" is transmitted to the issuer in Kranzley. Instead, only a selected account is provided. Moreover, the account is not "*flagged*" as a result of applying a "*fraud detection rule*."

Br. 25.

In response, the Examiner further clarifies the rejection by finding:

Keithly discloses a 'transaction data set 22' that includes 'consumer account history' in paragraph [0034]. Under broadest reasonable interpretation the Examiner is interpreting that the 'consumer account history' in the 'transaction data set 22' to include the entire transaction history of the user including the historical fraudulent transactions.

Ans. 10.

The Examiner further clarifies the rejection by citing to *KSR*.¹⁵
Ans. 10. "The rationale to support a conclusion that the claim would have been obvious is that the substitution of one known element for another yields predictable results to one of ordinary skill in the art." Ans. 11.

In *KSR*, the Court stated "[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*, 550 U.S. at 416.

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill [A] court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

Id. at 417.

We find the Examiner's suggested combination of Keithley's "consumer account history," including historic fraudulent transactions, with Kranzley's indication of potential fraud alerts for a selected account would have been within the level of skill in the art. Appellants have not demonstrated that the Examiner's proffered combination of references would have been "uniquely challenging or difficult for one of ordinary skill in the art." *See Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR*, 550 U.S. at 418). Nor have Appellants

¹⁵ *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007).

provided objective evidence of secondary considerations which our reviewing court guides "operates as a beneficial check on hindsight." *Cheese Sys., Inc. v. Tetra Pak Cheese and Powder Sys.*, 725 F.3d 1341, 1352 (Fed. Cir. 2013).

Therefore, based upon the findings above, on this record, we are not persuaded of error in the Examiner's reliance on the cited prior art combination to teach or suggest the disputed limitation of claim 1, nor do we find error in the Examiner's resulting legal conclusion of obviousness. Therefore, we sustain the Examiner's obviousness rejection of independent claim 1, and grouped claims 2, 4–22, and 24–29 which fall therewith. *See Claim Grouping, supra.*

CONCLUSIONS

(1) The Examiner did not err with respect to patent-ineligible subject matter Rejection R1 of claims 1, 2, 4–22, and 24–29 under 35 U.S.C. § 101, and we sustain the rejection.

(2) The Examiner did not err with respect to obviousness Rejection R2 of claims 1, 2, 4–22, and 24–29 under 35 U.S.C. § 103(a) over the cited prior art combination of record, and we sustain the rejection.

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DECISION

We affirm the Examiner's decision rejecting claims 1, 2, 4–22, and 24–29.

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). *See* 37 C.F.R. § 41.50(f).

AFFIRMED