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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KENNETH UNSER and JEAN-PIERRE GERARD

Appeal 2018-005796
Application 14/538,144
Technology Center 3600

Before ALLEN R. MacDONALD, MICHAEL J. ENGLE, and
IFTIKHAR AHMED, *Administrative Patent Judges*.

MacDONALD, *Administrative Patent Judge*.

DECISION ON APPEAL¹

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from a final rejection of claims 1, 3–11, and 13–20. Appellants have cancelled claims 2 and 12. Final Act. 2. We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM.

¹ Appellants indicate the real party in interest is MasterCard International Incorporated. Appeal Br. 1.

Illustrative Claim

Illustrative claim 1 under appeal reads as follows (emphasis, formatting, and bracketed material added):

1. A method for ***determining employment status based on transaction data***, comprising:

[A.] storing, in a profile database of a processing server, a plurality of consumer profiles, wherein each consumer profile

[i.] includes data related to one or more consumers including one of:

[a.] an employment status category of a plurality of employment status categories and

[b.] an indication of unknown employment status, and

[ii.] further including a plurality of transaction data entries, each transaction data entry including transaction data related to a payment transaction involving one or more of the related one or more consumers;

[B.] identifying, for each employment status category of the plurality of employment status categories, a corresponding set of consumer profiles in the profile database, wherein each consumer profile in the corresponding set includes the respective employment status category;

[C.] identifying, for each employment status category, a plurality of associated purchase behaviors based on at least the transaction data included in the plurality of transaction data entries included in each consumer profile in the corresponding set of consumer profiles;

[D.] identifying, for a specific consumer profile in the profile database, a plurality of purchase behaviors based on the transaction data included in the transaction data entries included in the specific consumer profile, wherein the specific consumer profile includes an indication of unknown employment status;

[E.] *identifying*, by a processing device of the processing server, *a predicted employment status category of the employment status categories* for the specific consumer profile based on a correspondence between the plurality of purchase behaviors identified for the specific consumer profile and the plurality of associated purchase behaviors identified for the predicted employment status category; and

[F.] *updating*, in the profile database, the specific consumer profile *to include the predicted employment status category*.

*References*²

Voskuhl et al.	US 8,583,471 B1	Nov. 12, 2013
Brundage	US 8,838,522 B1	Sept. 16, 2014

*Rejections*³

A. 35 U.S.C. § 101

The Examiner rejects claims 1, 3–11, and 13–20 under 35 U.S.C. § 101 because the claimed invention “is directed to non-statutory subject matter” (Final Act. 9), i.e., because the claimed invention is directed to patent-ineligible subject matter. Final Act. 9–12.

We select claim 1 as representative. Appellants do not separately argue claims 3–11 and 13–20. Except for our ultimate decision, we do not discuss the § 101 rejection of claims 3–11 and 13–20 further herein.

² All citations herein to these references are by reference to the first named inventor only.

³ All citations to the “Final Action” are to the Final Action mailed on November 24, 2017.

B. 35 U.S.C. § 103

The Examiner rejects claims 1, 3–11, and 13–20 under 35 U.S.C. § 103 as being unpatentable over the combination of Voskuhl and Brundage. Final Act. 14–27.

We select claim 1 as representative. Appellants do not present separately arguments for claims 3–11 and 13–20. Except for our ultimate decision, we do not discuss the § 103 rejection of claims 3–11 and 13–20 further herein.

Issues on Appeal

Did the Examiner err in rejecting claim 1 as being directed to patent-ineligible subject matter?

Did the Examiner err in rejecting claim 1 as being obvious?

ANALYSIS

We have reviewed the Examiner’s rejections in light of Appellants’ arguments (Appeal Brief and Reply Brief) that the Examiner has erred. We disagree with Appellants. Except as noted below, we 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 set forth by the Examiner in the Examiner’s Answer in response to Appellants’ Appeal Brief arguments. We concur with the conclusions reached by the Examiner. We highlight the following points.

A. *Section 101*

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101.

However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is “directed to.” *See Alice*, 573 U.S. at 219 (“On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk.”).

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that “a claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 187; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). Having said that, the Supreme Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Id.* (citation omitted) (citing *Benson* and *Flook*); *see, e.g., id.* at 187 (“It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

If the claim is “directed to” an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where “we must 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.” *Alice*, 573 U.S. at 221 (quotation marks omitted). “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (alterations in original) (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

B. *USPTO § 101 Guidance*

The United States Patent and Trademark Office (USPTO) recently published revised guidance on the application of § 101. USPTO’s January 7, 2019 Memorandum, *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (“2019 Memorandum”). Under that guidance, we first look to whether the claim recites:

- (1) (*see* 2019 Memorandum Step 2A – Prong One) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes); and
- (2) (*see* 2019 Memorandum Step 2A – Prong Two) additional elements that integrate the judicial exception into a practical application (*see* MPEP §§ 2106.05(a)–(c), (e)–(h)).⁴

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 is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or

⁴ We acknowledge that some of these considerations may be properly evaluated under Step 2 of *Alice* (Step 2B of 2019 Memorandum). Solely for purposes of maintaining consistent treatment within the Office, we evaluate it under Step 1 of *Alice* (Step 2A of 2019 Memorandum). *See* 2019 Memorandum 51.

(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 2019 Memorandum Step 2B.

C. Examiner's § 101 Rejection - Alice/Mayo - Steps 1 and 2

C.1. 2019 Memorandum Step 2A – Prong One

Applying the *Alice/Mayo* analysis, the Examiner determines claim 1 recites an abstract idea:

[T]he independent claims are directed toward[:]

[A.] *storing* a plurality of consumer profiles,

[B.] *identifying* a corresponding set of consumer profiles in the profile database including the respective employment status category,

[C.] *identifying* a plurality of purchase behaviors based on at least the transaction data included in the plurality of data entries included in each consumer profile,

[D.] *identifying* a plurality of purchase behaviors based on the transaction data included in the transaction data entries included in the specific consumer profile,

[E.] *identifying* a predicted employment status category of the employment status categories for the specific consumer profile, and

[F.] *updating* the specific consumer profile to include the predicted unemployment status category.

Final Act. 10 (emphasis, formatting, and bracketed material added).

The Examiner also determines:

[Steps A–F] are considered to be abstract ideas and (receiving information, analyzing it, and displaying it (*Electric Power Group*)⁵ and organizing information through mathematical

⁵ *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016).

correlations (*Digitech*)^[6], which are concepts held by the courts to be abstract. The *storing, identifying, identifying, identifying, identifying,* and *updating* steps/functions disclosed above and in the independent claims are directed toward the abstract concept of receiving information, analyzing it, and displaying it because the stored/received consumer profile data is being analyzed to determine an employment status category, which is then displayed to a user for interpretation. The storing, identifying, identifying, identifying, identifying, and updating steps/functions disclosed above and in the independent claims are directed toward the abstract concept of organizing information through *mathematical correlations* because the stored/received consumer profile data is being organized based on *high/low spend rates* (e.g. *mathematical correlations*) *to determine an employment status category* for that user as shown on Figure 4 of Applicant's specification.

Final Act. 10–11 (emphasis added).

The Examiner further determines:

The Appellant's claimed limitations and specification are not directed toward improving the way data is stored or processed, but rather analyzing data in a specific way which has been shown to be directed toward an abstract idea. . . . [T]he solution appears to be more of a *business-driven* solution rather than a technical one.

Ans. 8 (emphasis added).

C.2. 2019 Memorandum Step 2A – Prong Two

Further applying the *Alice/Mayo* analysis, the Examiner determines claim 1 is directed to an abstract idea. Particularly, the Examiner determines

(i) the claim does not amount to an improvement to another technology or technical field; (ii) the claim does not amount to an improvement to the functioning of a computer itself; (iii) the

⁶ *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344 (Fed. Cir. 2014).

claim does not move beyond a general link of the use of an abstract idea to a particular technological environment.

Final Act. 11.

Further, the Examiner determines:

The *Amdocs*⁷ case is monitoring and billing internet users for their data usage which is unrelated to the Appellant's claimed limitations involving analyzing transaction data to make determinations and storing the determinations in a database. In addition, the Appellant's claimed limitations are not enhancing the initial information, but rather receiving the initial transaction data (as claimed) and then analyzing that data to make determinations (identified to be directed toward an abstract idea) and storing that data in a database (even if not directed toward abstract idea would not account for significantly more than the abstract idea. The Appellant's claimed limitations and specification are not directed toward improving the way data is stored or processed, but rather analyzing data in a specific way which has been shown to be directed toward an abstract idea. The Appellant's claimed limitations do not appear to bring about any improvement in the operation or functioning of a computer per se, or to improve computer-related technology by allowing computer performance of a function not previously performable by a computer . . . , but rather the solution appears to be more of a business-driven solution rather than a technical one.

Ans. 8 (emphasis added).

C.3. 2019 Memorandum Step 2B

Applying the *Alice/Mayo* analysis, the Examiner determines:

[T]he claim merely amounts to the application or instructions to apply the abstract idea on *a computer* where receiving data (referenced July 2015 Update to Subject Matter Eligibility p. 7) and displaying/presenting data (referenced from *Electric Power Group* p. 9-10) have been identified as well-known, routine, and conventional steps/functions to one of ordinary skill in the art. Even if not directed toward the abstract idea, the above storing

⁷ *Amdocs (Isr.) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288 (Fed. Cir. 2016).

steps/functions would not account for significantly more than the abstract idea because receiving/storing data (referenced July 2015 Update to Subject Matter Eligibility p. 7) has been identified as well-known, routine, and conventional steps/functions to one of ordinary skill in the art. Further, method claims 1 and 3-10 recite *a database of a processing server*, receiving device, transmitting device, and memory; however, these elements merely facilitate the claimed functions at a high level of generality and they perform conventional functions.

Final Act. 11–12 (emphasis added).

Additionally, the Examiner determines:

In addition to this, adding the words “apply it” (or an equivalent) with the judicial exception, or mere instructions to implement an abstract idea on a general computer or laptop (as disclosed in Paragraphs 0065-0067 and Figure 6 of Appellant’s specification) is insufficient for qualifying as “significantly more”.

Ans. 4.

D. Panel’s Analysis of Appellants’ § 101 Arguments

D.1. 2019 Memorandum Step 2A, Prong 1

The Examiner correctly determines that claim 1 recites the following limitations:

- [A.] *storing* a plurality of consumer profiles,
- [B.] *identifying* a corresponding set of consumer profiles in the profile database including the respective employment status category,
- [C.] *identifying* a plurality of purchase behaviors based on at least the transaction data included in the plurality of data entries included in each consumer profile,
- [D.] *identifying* a plurality of purchase behaviors based on the transaction data included in the transaction data entries included in the specific consumer profile,

[E.] *identifying* a predicted employment status category of the employment status categories for the specific consumer profile, and

[F.] *updating* the specific consumer profile to include the predicted unemployment status category.

Final Act. 10 (emphasis, formatting, and bracketed material added).

The Examiner points out that for claim 1, mathematical correlations are used to determine an employment status category (Final Act. 11) and a business-driven problem is solved (Ans. 8). As to the Examiner's mathematical concept abstract idea analysis, as we find no mathematical correlation explicitly claimed or disclosed, we conclude this analysis is relevant only to the extent that it focuses on certain methods of organizing human activity that are ineligible.

As to the business related abstract idea, we conclude that claim 1 *recites* a method to determine an employment status category based on transaction data (i.e., “consumer’s transaction activity” (Spec. ¶ 2) including “payment transactions” (Spec. ¶ 22)), which Appellants disclose as a sub-step to better target relevant advertisements (Spec. ¶ 2). Such a determination constitutes “commercial or legal interactions” such as “advertising, marketing or sales activities or behaviors” and “business relations”; and these are ones of certain methods of organizing human activity identified in the 2019 Memorandum, and thus an abstract idea.
84 Fed. Reg. at 52.

D.2. 2019 Memorandum Step 2A, Prong 2

D.2.a.

Having determined that claim 1 *recites* an abstract idea, we now turn to whether claim 1 *is directed to* that abstract idea, or instead integrates the judicial exception into a practical application. Appellants contend:

The claimed invention is directed to address a challenge: how to identify the employment status for an individual whose status is unknown. The appealed claims solve this challenge via the use of a novel and nonobvious technical implementation that utilizes data analysis that cannot be performed without the aid of sophisticated computer technology that has been specifically configured to perform such analysis. . . . [T]he present claims, when their limitations are considered as an ordered combination, ***recite an improvement to technology*** that provides computing devices, when specifically programmed as outlined in the specification, with the ability to identify the employment status of an individual based on their transaction history.

Appeal Br. 6 (emphasis added).

[G]eneric computing systems are not configured to perform the analysis and functions recited in the present claims, as specialized configuration is necessary to be able to handle transaction data, let alone to also identify purchase behaviors and predict employment status categories based thereon. Instead, a processing server must be specifically configured as described in the present application to be able to carry out the claimed invention, which provides a solution to the aforementioned technical problem. ***The result is an improved technological process that provides a solution to an existing problem through improved computer functionality*** by the specialized configuration claimed in the appealed claims and described in the specification, which has been held by the courts and in past guidance issued by the Office as being patent-eligible.

Appeal Br. 7 (emphasis added).

There is no suggestion in the cited language [Spec. ¶ 57] that a “general purpose computer” can be used. Instead, the Examiner

is simply alleging this possibility while *presenting no evidence* in support of this assumption.

Reply Br. 2 (emphasis added).

The Appellant further notes that the appealed claims are *similar to those at issue in Amdocs (Israel) Ltd. [v]. Opennet Telecom, Inc.*, [841 F.3d 1288] (Fed. Cir. 2016). In *Amdocs*, the claims at issue were found to be patent eligible, and “could [. . .] be described [. . . as] receiving initial information, for correlating that initial information with additional information, and for using that additional information to enhance the initial information” ([841 F.3d at 1299–1300]).

Appeal Br. 7 (emphasis and bracketed material added).

D.2.b.

As to Appellants’ *improvement to technology* argument, we conclude that Appellants’ claimed process is “a method to determine an employment status category based on transaction data,” which is a business problem and not a technological problem. We do not agree with Appellants that receiving transaction data to determine employment status involves a “technological field,” a “technological problem,” or a “technological solution.” Rather, we determine that this is directed to the field of “commercial or legal interactions” including “advertising, marketing or sales activities or behaviors” or “business relations” and their problems and solutions. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed Cir. 2014) (holding that claim “describ[ing] only the abstract idea of showing an advertisement before delivering free content” is patent ineligible).

Further, Appellants argue the claim provides “improved computer functionality.” Appeal Br. 7. However, the claim provides only a result-oriented solution, i.e., is equivalent to the words “apply it” to perform the recited transmit and receive functions. We determine that claim 1 does not

“focus on a specific means or method that improves the relevant technology,” but is “directed to a result or effect that itself is the abstract idea and merely invoke[s] generic processes and machinery.” *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016). This is not enough to transform an abstract idea into patent-eligible subject matter. *See, e.g., Alice*, 573 U.S. at 225–26 (explaining that claims that “amount to ‘nothing significantly more’ than an instruction to apply the abstract idea . . . using some unspecified, generic computer” “is not ‘*enough*’ to transform an abstract idea into a patent-eligible invention” (quoting *Mayo*, 566 U.S. at 77, 79)); *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1342 (Fed. Cir. 2017) (“[T]he claim language here provides only a result-oriented solution, with insufficient detail for how a computer accomplishes it.”).

As to Appellants’ argument that the Examiner presents no evidence that a “general purpose computer” can be used, we are unpersuaded. Appellants overlook that their own Specification explicitly states “[p]rocessor device 604 may be a special purpose or a ***general purpose processor device***.” Spec. ¶ 61 (emphasis added).

As to Appellants’ *Amdocs* argument, we agree with Appellants that improving a technological process may result in integrating the judicial exception into a practical application. This consideration has also been referred to as the search for a technological solution to a technological problem. *See Amdocs*, 841 F.3d at 1300 (“[T]his claim entails an unconventional technological solution (enhancing data in a distributed fashion) to a technological problem (massive record flows which previously required massive databases)”).

However, as discussed *supra*, we conclude that Appellants' claimed process is "a method to determine an employment status category based on transaction data" which is a business problem and not a technological problem. Again, we do not agree with Appellants that receiving transaction data to determine employment status involves a "technological field," a "technological problem," or a "technological solution."

D.2.c.

We agree with the Examiner that as to the steps of claim 1, the recitations "merely amount to the application or instructions to apply the abstract idea using a computer and generic hardware/software, and [are] considered to amount to nothing more than requiring a computer workstation and generic hardware/software to merely carry out the abstract idea itself."

Ans. 5.

In view of Appellants' Specification, and consistent with the Examiner's determinations, we conclude that claim 1 does not integrate the judicial exception into a practical application. We determine claim 1 does not recite:

- (i) an improvement to the functioning of a computer;
- (ii) an improvement to another technology or technical field;
- (iii) an application of the abstract idea with, or by use of, a particular machine;
- (iv) a transformation or reduction of a particular article to a different state or thing; or
- (v) other meaningful limitations beyond generally linking the use of the abstract idea to a particular technological environment.

See MPEP §§ 2106.05(a)–(c), (e)–(h). We agree with the Examiner that claim 1 is *directed to* a judicial exception, and does not integrate the judicial exception into a practical application.

D.3. 2019 Memorandum Step 2B

Discussing claim 1, the Examiner points out:

[T]he claim merely amounts to the application or instructions to apply the abstract idea on a computer where receiving data (referenced July 2015 Update to Subject Matter Eligibility p. 7) and displaying/presenting data (referenced from *Electric Power Group* p. 9-10) have been identified as well-known, routine, and conventional steps/functions to one of ordinary skill in the art. . . . Further, method claims 1 and 3-10 recite *a database of a processing server*, receiving device, transmitting device, and memory; however, these elements merely facilitate the claimed functions at a high level of generality and they perform conventional functions.

Final Act. 11–12 (emphasis added).

We agree with the Examiner that use of a database and a processing device is well-understood, routine, and conventional. This is evidenced by the references cited during examination. *See, e.g.*, Voskuhl, col. 8, ll. 5–8, Fig. 2; Brundage Fig. 4. *See also*, “generic computer components such as . . . ‘database’ . . . do not satisfy the inventive concept requirement.” *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1324–25 (Fed. Cir. 2016); “These benefits, however, are not improvements to database functionality. Instead, they are benefits that flow from performing an abstract idea in conjunction with a well-known database structure.” *BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1288 (Fed. Cir. 2018); and “This type of activity, i.e., organizing and accessing records through the creation of an index-searchable database, includes longstanding conduct that existed well before the advent of computers and the Internet. . . . We have

previously held other patent claims ineligible for reciting similar abstract concepts that merely collect, classify, or otherwise filter data.” *Intellectual Ventures I LLC v. Erie Indem. Co.*, 850 F.3d 1315, 1327 (Fed. Cir. 2017).

We conclude claim 1, in addition to the abstract idea, recites only a well-understood, routine, conventional elements/combination previously known in the industry. In view of Appellants’ Specification, and consistent with the Examiner’s determinations, we determine the claims do not recite:

- (vi) a specific limitation other than what is well-understood, routine, conventional activity in the field or unconventional steps that confine the claim to a particular useful application.

See MPEP § 2106.05(d).

E. Appellants’ § 103 Arguments

Again, except as noted below, we 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 set forth by the Examiner in the Examiner’s Answer in response to Appellants’ Appeal Brief arguments. We concur with the conclusions reached by the Examiner. We highlight the following points.

E.1.

Appellants contend that the Examiner erred in rejecting claim 1 under 35 U.S.C. § 103 because:

[E]ach of the cited portions of Voskuhl refer to the association of an *income bracket* with an individual. Voskuhl is completely silent as to storing any information for individuals with respect to their *employment status*, as recited in the present claims. As such, Voskuhl fails to disclose or suggest the *storing of an*

employment status category in each of a plurality of consumer profiles, as recited in the present claims. At page 7 of the Response to Arguments, the Examiner alleges that a consumer's income is equivalent to their employment status, referring to paragraph [0034] of the present specification. However, the present application refers to income as a subset of the employment status, where the employment status of the consumer referred to in the example is full-time employment, with the income range being merely any additional descriptor. As stated above, Vosku[hl] is completely silent as to the *employment status* of the individuals discussed therein.

Appeal Br. 9 (emphasis added).

As to Appellants' above contention, we are not persuaded. We agree with the Examiner (Ans. 8–9) that income ranges in Voskuhl reasonably equate to the claimed “employment status categories.” See Appeal Br. Cl. App. 3 (Appellants' claim 8 recites “the plurality of employment status categories includes at least one of: unemployment, part-time employment, full-time employment, student, and *employment associated with one income category of a plurality of income categories.*” (emphasis added)).

E.2.

Appellants also contend that the Examiner erred in rejecting claim 1 under 35 U.S.C. § 103 because:

[T]he Examiner alleges that Voskuhl discloses [transaction data entries], referring specifically to col. 8, ll. 21-45, which discloses that an external website log records data about buying patterns, with the example provided in col. 12, ll. 45-63 that “If the user choose to purchase concert tickets to the next Britney Spears concert on the external website, the social networking system 100 may collect that information and *store an interest* in Britney Spears in the user profile information object associated with the user.” Thus, in Voskuhl there is no storage of transaction data for a transaction in the user profile, as recited in the present claims. Instead, in Voskuhl *the user profile includes only user*

interests that are based on their purchases, and no data related to the purchase itself. In addition, Voskuhl does not disclose what is stored in the external website log about any *patterns*. As Voskuhl does not mention transaction data in the entirety of the application, the external website log fails to suggest the storing of transaction data for individual transactions. Thus, Voskuhl fails to disclose or suggest the storing of transaction data entirely, let alone in the user profile, as recited in the present claims.

Appeal Br. 10–11 (emphasis added).

[T]here is no mention in Voskuhl of any logging of purchasing activity, instead there is only the mention of collecting information regarding customer interests. *These interest patterns are separate and distinct from purchases*, and could be identified based on data that has little or nothing to do with transaction data or transactional activity.

Appeal Br. 11 (emphasis added).

As to Appellants’ above contention, we are not persuaded. We agree with the Examiner that interest data in Voskuhl reasonably equates to product data which Appellants disclose (Spec. ¶ 29) as being an example of the claimed “transaction data.” Ans. 10. As Appellants acknowledge, Voskuhl’s interest data is stored “in the user profile information object associated with the user.” Appeal Br. 10. Contrary to Appellants’ argument that “Voskuhl does not disclose what is stored in the external website log” (*id.* at 11), Voskuhl states that purchase price and purchase frequency are collected:

The external data gathering module 300 may also collect other information about the user’s actions on the external website, such as the *price of the tickets* and *how frequently the user makes purchases* on the live music concert website. This information may then be used as a factor in a predictive model for inferring household income for users of the social networking system 100.

Voskuhl, col. 8, ll. 38–44 (emphasis added). Further, we conclude that Voskuhl storing the interest data in a user profile is reasonably suggestive of storing other user transaction data in a user’s profile as an alternative to storage in the external website log.

E.3.

Appellants also contend that the Examiner erred in rejecting claim 1 under 35 U.S.C. § 103 because:

As the cited references do not disclose or suggest the storage of transaction data, they cannot further disclose or suggest using that transaction data to *identify purchase behaviors* based thereon, as recited in the present claims.

Appeal Br. 12 (emphasis added).

[T]he Examiner appears to be alleging that the stored customer interests is equivalent to both the transaction data recited in the claims, as well as the purchase behaviors recited in the claims that are identified using the transaction data. Thus, even assuming *arguendo* that the Examiner’s interpretation of Voskuhl’s consumer interests is correct with respect to one of the claim recitations, *it cannot operate as both the transaction data and purchase behaviors*.

Appeal Br. 13 (emphasis added).

As to Appellants’ above contention, we are not persuaded. As discussed *supra*, Voskuhl teaches storage of transaction data in the form of interest data in a user profile, and is reasonably suggestive of storing other transaction data in the user profile. Appellants’ Specification states:

Purchase behaviors identified for each group may include propensity to spend across a plurality of categories that are based on merchant, industry, product type, product industry, product brand, one or more periods of time, transaction amounts, etc.

Spec. ¶ 23. We understand the claimed “purchase behaviors based on the transaction data” to mean purchase behaviors are *derived* from transaction

data. We conclude that Voskuhl’s “how frequently the user makes purchases” data is purchase behavior data derived from data about plural individual transactions. Further, we are not persuaded by Appellants’ argument that “[consumer interests] cannot operate as both the transaction data and purchase behaviors” because the Examiner does not rely on the raw consumer interests data to teach both these features. Rather, the Examiner relies on Voskuhl’s derived “how frequently” (Final Act. 16) to teach purchase behavior.

E.4.

Appellants also contend that the Examiner erred in rejecting claim 1 under 35 U.S.C. § 103 because:

At page 17 of the Office Action, the Examiner alleges that the identification of income brackets in Voskuhl is equivalent to the prediction of employment status categories as recited in the present claims. However, as discussed above, Voskuhl is silent with respect to employment status, and ***income brackets on their own are not indicative of the employment of an individual.***

Appeal Br. 14 (emphasis added).

As to Appellants’ above contention, we are not persuaded for the reasons already set forth *supra* at Section E.1.

CONCLUSIONS

(1) The Examiner has not erred in rejecting claims 1, 3–11, and 13–20 under 35 U.S.C. § 101, as being directed to patent-ineligible subject matter.

(2) The Examiner has not erred in rejecting claims 1, 3–11, and 13–20 as being unpatentable under 35 U.S.C. § 103.

(3) Claims 1, 3–11, and 13–20 are not patentable.

DECISION

The Examiner's rejection of claims 1, 3–11, and 13–20 under 35 U.S.C. § 101, as being directed to patent-ineligible subject matter, is **affirmed**.

The Examiner's rejection of claims 1, 3–11, and 13–20 as being unpatentable under 35 U.S.C. § 103 is **affirmed**.

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