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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* MICHAEL HAMILTON MILLER, LISA ANN MILLER,  
JAMES CHIA-MING LIU, and ALEXANDER GEORGE PARAKILAS

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Appeal 2017-003238  
Application 13/361,886<sup>1</sup>  
Technology Center 3600

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Before TERRENCE W. McMILLIN, KARA L. SZPONDOWSKI, and  
SCOTT B. HOWARD, *Administrative Patent Judges*.

HOWARD, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1–24, which constitute all of the claims pending in this application. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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<sup>1</sup> Appellants identify Ferucia LLC as the real party in interest. App. Br. 3.

## THE INVENTION

The disclosed and claimed invention is directed to “systems and methods for optimizing acquisition of goods in e-commerce applications.”

Spec. ¶ 2.<sup>2</sup>

Claim 1, reproduced below, are illustrative of the claimed subject matter:

1. A computer implemented method for recommending a target item, the method comprising:

receiving an identification information for the target item;

locating the target item in an item database using the identification information, the item database containing metadata of the target item;

representing the target item using a generic representation of an item with a similar set of metadata, in the event that the target item is not located in the item database;

comparing the metadata of the target item to metadata of a profile, the profile comprising metadata of a plurality of items located in the item database;

calculating a confidence measurement, the confidence measurement quantizing an overlap between the metadata of the target item and the metadata of the profile; and

contacting a user associated with the profile about the target item to present the confidence measurement and a fit suggestion to the user, if the confidence measurement exceeds a pre-determined value, wherein the confidence measurement is an objective measurement of likelihood of success or satisfaction of the target item for the user;

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<sup>2</sup> We refer to the Specification filed Jan. 30, 2012 (“Spec.”); Non-Final Office Action mailed Jan. 22, 2016 (“Non-Final Act.”); Appeal Brief filed June 27, 2016 (“App. Br.”); Examiner’s Answer mailed Oct. 25, 2016 (“Ans.”); and the Reply Brief filed Dec. 26, 2016 (“Reply Br.”).

wherein the confidence measurement indicates a level of relevancy between the target item and the plurality of items associated with the profile.

#### REFERENCES

The prior art relied upon by the Examiner as evidence in rejecting the claims on appeal is:

Chan et al. (hereinafter “Chan”)	US 2008/0243638 A1	Oct. 2, 2008
Eggink et al. (hereinafter “Eggink”)	US 2009/0013002 A1	Jan. 8, 2009
Tran et al. (hereinafter “Tran”)	US 2010/0191578 A1	July 29, 2010
Cho et al. (hereinafter “Cho”)	US 2010/0191770 A1	July 29, 2010
Boehle	US 2012/0084122 A1	Apr. 5, 2012

#### REJECTIONS

Claims 22 and 23 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Non-Final Act. 3.

Claims 1–24 stand rejected under 35 U.S.C. § 101 because the claimed invention is directed to a judicial exception without significantly more. Non-Final Act. 4.

Claims 1–22 and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tran, Chan, Eggink, and Cho. Non-Final Act. 11–12.

Claim 23 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Tran, Chan, Eggink, Cho, and Boehle. Non-Final Act. 30.

### ANALYSIS

We have reviewed the Examiner's rejections in light of Appellants' arguments that the Examiner erred. In reaching this decision, we have considered all evidence presented and all arguments made by Appellants. We are not persuaded by Appellants' arguments.

#### *Section 112 Rejection*

Appellants do not address the pending rejection under 35 U.S.C. § 112, second paragraph. Accordingly, we summarily sustain the Examiner's rejection of claims 22 and 23 for being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. *See* MPEP § 1205.02 (2017) ("If a ground of rejection stated by the examiner is not addressed in the appellant's brief, appellant has waived any challenge to that ground of rejection and the Board may summarily sustain it."); *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential) ("If an appellant fails to present arguments on a particular issue – or, more broadly, on a particular rejection – the Board will not, as a general matter, unilaterally review those uncontested aspects of the rejection.").

#### *Section 101 Rejection*

##### *The Alice/Mayo Framework Governing Patent-Eligible Subject Matter*

Patent-eligible subject matter is defined in § 101 of the Patent Act, which recites: "Whoever 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 therefor, subject to the conditions and requirements of this title.”

There are, however, three judicially created exceptions to the broad categories of patent-eligible subject matter in § 101: laws of nature, natural phenomena, and abstract ideas. *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70–71 (2012). Although an abstract idea, itself, is patent-ineligible, an application of the abstract idea may be patent-eligible. *Alice*, 134 S. Ct. at 2355. Thus, we must consider “the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Id.* (citing *Mayo*, 566 U.S. at 79, 78). The claim must contain elements or a combination of elements that are “sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [abstract idea] itself.” *Id.* (citing *Mayo*, 566 U.S. at 72–73).

The Supreme Court set forth a two-part “framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Id.* at 2355.

First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts. [*Mayo*,] 132 S. Ct., at 1296–1297. If so, we then ask, “[w]hat else is there in the claims before us?” *Id.*, at —, 132 S. Ct., at 1297. To answer that question, we consider the elements of each claim both individually and “as an ordered combination” to determine whether the additional elements “transform the nature of the claim” into a patent-eligible application. *Id.*, at —, 132 S. Ct., at 1298, 1297. We have described step two of this analysis

as a search for an “‘inventive concept’”—*i.e.*, an element or combination of elements that is “sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.” *Id.*, at —, 132 S. Ct., at 1294.

*Id.*

“The ‘abstract idea’ step of the inquiry calls upon us to look at 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. v. DirectTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016) (quoting *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016)); *see also Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016). There is no definitive rule to determine what constitutes an “abstract idea.” Rather, the Federal Circuit has explained that “both [it] and the Supreme Court have found it sufficient to compare claims at issue to those claims already found to be directed to an abstract idea in previous cases.” *Enfish*, 822 F.3d at 1334; *see also Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016) (explaining that, in determining whether claims are patent eligible under § 101, “the decisional mechanism courts now apply is to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided”).

Under the second step of the *Alice/Mayo* framework, we examine the claim limitations “more microscopically,” *Elec. Power*, 830 F.3d at 1354, to determine whether they contain “additional features” sufficient to “‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 134 S. Ct. at 2355, 2357 (quoting *Mayo*, 566 U.S. at 78). “Mere recitation of concrete, tangible components is insufficient to confer patent

eligibility to an otherwise abstract idea. Rather, the components must involve more than performance of ‘well-understood, routine, conventional activit[ies] previously known to the industry.’” *In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016) (citing *Alice*, 134 S. Ct. at 2359).

#### *Abstract Idea*

The Examiner concludes the claims are directed to using categories to store information and comparing new information with stored information and mathematically representing the comparison of new and stored information. Non-Final Act. 4–5. The Examiner further determines the claims are similar to those found to be abstract in *Cyberfone Systems, LLC v. CNN Interactive Group., Inc.*, 558 F. App’x 988 (Fed. Cir. 2014) and *SmartGene, Inc. v. Advanced Biological Laboratories, SA*, 555 Fed. App’x 950 (Fed. Cir. 2014). Ans. 4.

Appellants argue the Examiner has oversimplified the claims, which are directed to a practical application and not an abstract idea. App. Br. 8; *see* Reply Br. 3. Specifically, Appellants argue that the claims are directed to “more than just ‘recommending products to customers,’” but rather to a “very specific method” providing “users with information and the ability to make informed goods acquisition decisions.” App. Br. 8–9.

Appellants further argue the claimed invention, similar to *Enfish*, is an “improvement to computer functionality” because it improves the way a computer provides an “instant objective measurement indicating a level of relevancy between the target item and the items associated with the user’s online profile.” App. Br. 9. Specifically, Appellants argue this claimed invention improves an existing technical field of online merchandise

recommendations by organizing goods information and generating objective measurements. Reply Br. 4. Appellants further contend the claimed invention addresses the “Internet-centric challenge of providing an instant objective measurement indicating a level of relevancy between the target item and the items associated with the user’s online profile.” App. Br. 10; *see* Reply Br. 6–7. According to Appellants, similar to *Enfish* and *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014), the claimed elements are meaningful limitations that add more than generally linking the abstract idea to the Internet, and their solution to the software arts problem is necessarily rooted in computer technology. App. Br. 11.

We are not persuaded by Appellants’ arguments that the Examiner erred. The Examiner identifies the abstract idea as recommending particular products to customers based on customer profiles by using categories to organize and transmit information, similar to the claims in *Cyberfone*. *See* Non-Final Act. 4–5; Ans. 4. As identified by the Examiner, claim 1’s steps can be identified as using categories to organize information (i.e., claimed receiving and using identification information). *See* Non-Final Act. 4. A method of “using categories to organize, store, and transmit information is well-established . . . the idea of collecting information in classified form, then separating and transmitting that information according to its classification, is an abstract idea that is not patent-eligible.” *Cyberfone*, 558 F. App’x at 992.

The Examiner further determines the claims are similar to those found to be abstract in *SmartGene, Inc. v. Advanced Biological Laboratories, SA*, 555 Fed. App’x 950 (Fed. Cir. 2014). *See* Non-Final Act. 4–5; Ans. 4. As identified by the Examiner, claim 1’s steps can be identified as collecting

and comparing new and stored information and using rules to identify options (i.e., claimed using the received identification information to locate the target item in the item database, representing the target item using generic representation with similar set of metadata, comparing metadata of the target item to metadata of profile, calculating a confidence measurement indicating relevancy by quantizing the overlap of metadata). Non-Final Act. 4–5. A mental process comprising the “mental steps of comparing new and stored information and using rules to identify [] options” is not patent-eligible. *SmartGene*, 555 Fed. App’x at 955.

Moreover, we disagree with Appellants that the claims in this case are directed to a computer-centric problem or necessarily rooted in computer technology like the claims in *Enfish* and *DDR*.

In *Enfish*, the patent was “directed to a specific improvement to computer functionality,” embodied in a self-referential database table, and recited technical details for a software component that distinguished from the prior art, thus improving how the computer was configured. *Enfish*, 822 F.3d at 1338–1339. We agree with the Examiner that, unlike in *Enfish*, Appellants’ claims “recite no limitations which differ from conventional database structures, nor do they recite limitations which differ from the organization, comparison, and presentation of data to a user through conventional computing functions.” Ans. 3.

In *DDR*, the Court found that the claims “do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet. Instead, the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.”

*DDR*, 773 F.3d at 1257. Unlike the claims in *DDR*, we agree with and adopt the Examiner’s determination that the problem here “existed in the pre-Internet era in the form of to whom to target advertising for particular goods/services based on user characteristics.” Ans. 5. We further agree with the Examiner’s determination that the claimed invention could be “implemented directly by a human performing analogous functions by hand and/or with the assistance of a general purpose computer applied to facilitate the functions at a high level of generality or with the assistance of additional elements performing well-known, conventional functions.” Ans. 6. Here, the claimed invention does not improve computers as tools but rather improves independently abstract ideas that use computers as tools.

Furthermore, the claimed computer device is defined by the functions it performs rather than how it performs its functions, and does not define specific machines performing specific functions. For example, the computer is described in Appellants’ Specification as “a general purpose or special purpose computing system[] or configuration[],” including “personal computers, server computers, handheld or laptop devices, cellular/mobile telephones, tablet devices, multiprocessor systems, microprocessor-based systems, set-top boxes, network capable television, game console, programmable consumer electronics, network PCs, minicomputers, mainframe computers, distributed computing environments.” Spec. ¶ 24. As such, the claimed computer device and computing system describe generic computer components that perform generic computer functions.

Appellants further argue, for the first time in the Reply Brief, that the claimed steps “do not preempt all possible approaches for or improperly monopolize the alleged abstract idea.” Reply Br. 5. Appellants’ contention

in the Reply Brief is untimely. 37 C.F.R. § 41.41(b)(2) (2012) (“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.”). However, even if Appellants’ argument was considered timely, we are not persuaded by Appellants’ preemption argument.

Although the extent of preemption is a consideration, the absence of complete preemption is not dispositive. *See, e.g., Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) (“While preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility.”); *Ultramercial, Inc. v. Hulu, LLC*, 722 F.3d 1335, 1346 (Fed. Cir. 2013) (“[T]he Supreme Court has stated that, even if a claim does not wholly pre-empt an abstract idea, it still will not be limited meaningfully if it contains only insignificant or token pre- or post-solution activity – such as identifying a relevant audience, a category of use, field of use, or technological environment.”) (citations omitted), *vacated and remanded, WildTangent, Inc. v. Ultramercial, LLC*, 134 S. Ct. 2870 (2014) (remanding for consideration in light of *Alice*, 134 S. Ct. 2347). Therefore, even if the claims do not preempt the abstract idea, that alone is not enough to render the claims patent-eligible.

Accordingly, we agree with the Examiner that the claims are directed to an abstract idea.

*Significantly More*

The Examiner determines that the claims do not include additional elements that are sufficient to amount to significantly more than the judicial

exception because the claimed invention uses generic computers performing conventional computing functions, and the claimed contacting a user to present the measurement is an insignificant post-solution activity. Non-Final Act. 5. The Examiner further determines the claimed abstract idea is implemented on a generic computer using “only conventional computing functions (i.e., receiving, processing, and storing data; performing mathematical calculations, etc.)” Ans. 3–4.

Appellants argue the claimed limitations, taken together as an ordered combination, provide unconventional steps confining the abstract idea to a particular useful application. Reply Br. 7. Specifically, Appellants contend the claimed invention is “directed to a specific implementation of a solution for providing an instant objective measurement indicating a level of relevancy between the target item and the items associated with the user’s online profile.” App. Br. 10.

We are not persuaded by Appellants’ argument that the Examiner erred. As discussed above, we disagree with Appellants that the claims in this case are directed to a computer-centric problem. We find the claimed invention does not improve computers as tools but rather improves independently abstract ideas that use computers as tools. As also discussed above, we agree with the Examiner’s determination that the claimed invention is directed to an abstract idea that is implemented on a generic computer using conventional computing functions and conventional database structures. *See* Ans. 3–4. The claimed computer device and computing system, in light of Appellants’ Specification, describe generic computer components that perform generic computer functions. *See* Spec. ¶ 24.

Accordingly, we sustain the Examiner's rejection of claim 1 as being directed to patent-ineligible subject matter, as well as commensurate independent claims 15, 17, and 24, and dependent claims 2–14, 16, and 18–23, not separately argued.

*Section 103 Rejection*

Claim 1 recites

present[ing] the *confidence measurement and a fit suggestion* to the user, if the confidence measurement exceeds a pre-determined value, wherein the confidence measurement is an objective measurement of likelihood of success or satisfaction of the target item for the user; *wherein the confidence measurement indicates a level of relevancy between the target item and the plurality of items associated with the profile*

(emphasis added).

Appellants contend Eggink's indication of a level of confidence whether a user will like a recommendation does not teach the claimed indication of a level of relevancy between the target item and the items associated with the profile. App. Br. 12. Appellants further argue Eggink's content recommendation based on a user profile does not teach the claimed confidence measurement based on a user profile. *Id.* According to Appellants, Eggink's user profile does not include any content items and is not associated with any content items. Reply Br. 9.

We agree with the Examiner's finding that Eggink's confidence measurement that indicates whether a user will like a recommendation based on a user profile that is based on observation of what types of content the user has previously accessed "at least indicates a level of relevancy between the target item and the plurality of items associated with the profile as

required by the claim.” Ans. 7 (citing Eggink ¶ 16); *see* Non-Final Act. 14 (citing Eggink ¶¶ 62, 66).

As cited by the Examiner (Ans. 7; Non-Final Act. 14), Eggink discloses “determining a content recommendation from a database of content items based on a user profile. . . . The user profile may be . . . based on an observation of what kind of content items the user has previously accessed, e.g. via downloading or streaming.” Eggink ¶ 16. Eggink further discloses “device 200 of FIG. 2 displays that the confidence for the currently played song ‘Sorry’ is 80%,” meaning “that the system is rather sure (with a probability of 80%) that the user will like the song ‘Sorry.’” Eggink ¶ 66. In other words, Eggink teaches recommending items based on a user profile that is based on items accessed by the user and providing a confidence measurement for the recommendation.

Appellants do not provide persuasive evidence or argument that the claimed confidence measurement indicating a level of relevancy between the target item and the items associated with the profile precludes Eggink’s confidence measurement indicating the relevancy of a target item (i.e., confidence of satisfaction with a recommended item) based on the items associated with the user profile (i.e., items accessed by the user and acting as the basis for the user profile).

Claim 1 also recites “representing the target item using a generic representation of an item with a similar set of metadata, in the event that the target item is not located in the item database.”

Appellants contend Tran’s identifying merchandise attributes from images and merchandise descriptions and comparing merchandise using these attributes does not teach the claimed representing the target item using

a generic representation when the target item is not located in the item database. App. Br. 13. Specifically, Appellants argue “Tran does not disclose that the image of the fashion item is taken when the item is not located in the item database.” *Id.* Appellants also argue Tran’s merchandise is represented by the “images of the *exact* merchandise,” which does not teach the claimed “representing the target item using a *generic representation* of an item with a *similar* set of metadata.” Reply Br. 8; *see* App. Br. 14.

Claim 1 does *not* recite representing the target item using a generic representation of an item with a similar set of metadata *only* in the event that the target item is not located in the item database. Claim 1 does not preclude always representing the target item using a generic representation of an item with a similar set of metadata, both when the target item is not located in the item database and when the target item is located in the item database.

We agree with the Examiner’s finding that Tran’s image of the fashion item teaches a generic representation of an item with a similar set of metadata to the item photographed, which is “the item not in the database.” Ans. 9; *see* Non-Final Act. 12 (citing Tran ¶¶ 40–41).

As cited by the Examiner (Non-Final Act. 12), Tran discloses:

In some embodiments, the integrated application of the electronic device *can receive information from fashion providers including metadata associated with fashion items...* In some embodiments, *in addition to or instead of receiving metadata*, the integrated application can *identify attributes of merchandise from available images and descriptions of the merchandise*. For example, *an image of a fashion item can be taken with a camera of the electronic device*. The integrated application may *then analyze the image to identify attributes of the fashion item*.

Using the fashion item attributes (e.g., *attributes received through metadata, attributes identified by the integrated application, or both*), the integrated application can compare merchandise...

Tran ¶¶ 40–41 (emphasis added). In other words, Tran teaches taking images and analyzing them to identify attributes in addition to receiving metadata associated with the items, and the identified attributes and attributes from the metadata are used to compare merchandise.

Appellants do not provide persuasive evidence or argument that the claimed representing a target item using a generic representation with a similar set of metadata, encompassing always representing the target item using a generic representation, precludes Tran’s taking an image of an item and analyzing it to identify attributes in addition to receiving metadata associated with the items.<sup>3</sup>

Accordingly, we sustain the Examiner’s rejection of independent claim 1, along with the rejections of commensurate independent claims 15, 17, and 24, and dependent claims 2–14, 16, and 18–23, not separately argued.

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<sup>3</sup> In the event of further prosecution, the Examiner should consider whether the claimed “representing the target item using a generic representation of an item with a similar set of metadata, *in the event* that the target item is not located in the item database” and “contacting a user associated with the profile about the target item to present the confidence measurement and a fit suggestion to the user, *if* the confidence measurement exceeds a pre-determined value” are conditional limitations. *See Ex parte Schulhauser*, Appeal 2013-007847 (PTAB April 28, 2016); *see* MPEP § 2111.04(II) (2017) (“The broadest reasonable interpretation of a method (or process) claim having contingent limitations requires only those steps that must be performed and does not include steps that are not required to be performed because the condition(s) precedent are not met.”).

DECISION

The Examiner's rejection of claims 22 and 23 under 35 U.S.C. § 112, second paragraph, is affirmed.

The Examiner's rejection of claims 1–24 under 35 U.S.C. § 101 is affirmed.

The Examiner's rejections of claims 1–24 under 35 U.S.C. § 103 are 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). *See* 37 C.F.R. § 41.50(f).

AFFIRMED