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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 XIAO WEN PAN

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Appeal 2017-001233[1]
Application 13/389,996
Technology Center 3600

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Before MURRIEL E. CRAWFORD, MICHAEL W. KIM, and
PHILIP J. HOFFMANN, *Administrative Patent Judges.*

KIM, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal from the rejection of claims 7–25 and 27. We have
jurisdiction to review the case under 35 U.S.C. §§ 134 and 6.

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[1] The Appellant identifies Alibaba Group Holding Ltd. as the real party in
interest. Appeal Br. 3.

The invention relates generally to search methods. Spec. ¶ 2.

Independent claim 7 is illustrative:

> 7. A search method comprising:
>
> obtaining initial web pages that match a descriptive query from a web page database;
>
> performing first relevancy processing for the initial web pages to obtain a plurality of relevant web pages;
>
> performing second relevancy processing for the plurality of relevant web pages, performing the second relevancy processing comprising:
>
> determining whether a category of a keyword in the descriptive query does not match with a category of a product identifier that is related to a relevant web page of the plurality of relevant web pages, the product identifier being obtained based at least in part on a corresponding relationship between the product identifier and the relevant web page that is stored in the web page database; and
>
> reducing a relevancy score of the relevant web page in response to determining that the category of the keyword in the descriptive query does not match with the category of the product identifier that is related to the relevant web page; and
>
> displaying at least one product for the descriptive query to a client according to relevancy scores obtained from the second relevancy processing, the at least one product corresponding to at least one product identifier that is related to one or more relevant web pages.

The Examiner rejected claims 7–25 and 27 under 35 U.S.C. § 101 as directed to ineligible subject matter in the form of abstract ideas.

The Examiner rejected claim 27 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

The Examiner rejected claims 7–14 and 27 under 35 U.S.C. § 112, second paragraph, as indefinite.

The Examiner rejected claims 7–25 and 27 under 35 U.S.C. § 103(a) as unpatentable over Bailey et al., (US 2006/0167864 A1, pub. July 27,

2006) (hereinafter "Bailey") and Sundaresan (US 2009/0144259 A1, pub. June 4, 2009).

We AFFIRM.

ANALYSIS

Rejection of Claims 7–14 Under 35 U.S.C. § 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. The Supreme Court, however, has long interpreted § 101 to include implicit exceptions: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *E.g.*, *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2354 (2014).

In determining whether a claim falls within the excluded category of abstract ideas, we are guided in our analysis by the Supreme Court's two-step framework, described in *Mayo* and *Alice*. *Id.* at 2355 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1296–97 (2012)). In accordance with that framework, we first determine whether the claim is "directed to" a patent-ineligible abstract idea. *See Alice*, 134 S. Ct. at 2356 ("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."); *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."); *Diamond v. Diehr*, 450 U.S. 175, 184 (1981) ("Analyzing respondents' claims according to the above statements from our cases, we think that a physical and chemical process for molding precision synthetic rubber products falls within the § 101 categories of possibly patentable

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subject matter."); *Parker v. Flook*, 437 U.S. 584, 594–595 (1978) ("Respondent's application simply provides a new and presumably better method for calculating alarm limit values."); *Gottschalk v. Benson*, 409 U.S. 63, 64 (1972) ("They claimed a method for converting binary-coded decimal (BCD) numerals into pure binary numerals.").

The following method is then used to determine whether what the claim is "directed to" is an abstract idea:

> [T]he 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. *See, e.g., Elec. Power Grp.*, 830 F.3d at 1353–54. That is the classic common law methodology for creating law when a single governing definitional context is not available. *See generally* Karl N. Llewellyn, The Common Law Tradition: Deciding Appeals (1960). This more flexible approach is also the approach employed by the Supreme Court. *See Alice*, 134 S. Ct. at 2355–57. We shall follow that approach here.

Amdocs (Israel) Limited v. Openet Telecom, Inc., 841 F.3d 1288, 1294 (Fed. Cir. 2016).

The patent-ineligible end of the spectrum includes fundamental economic practices, *Alice*, 134 S. Ct. at 2357; *Bilski*, 561 U.S. at 611; mathematical formulas, *Flook*, 437 U.S. at 594–95; and basic tools of scientific and technological work, *Benson*, 409 U.S. at 69. On the patent-eligible side of the spectrum are physical and chemical processes, such as curing rubber, *Diamond*, 450 U.S. at 184 n.7, "tanning, dyeing, making waterproof cloth, vulcanizing India rubber, smelting ores," and a process for manufacturing flour, *Gottschalk*, 409 U.S. at 69.

If the claim is "directed to" a patent-ineligible abstract idea, we then consider the elements of the claim—both individually and as an ordered

combination—to assess whether the additional elements transform the nature of the claim into a patent-eligible application of the abstract idea. *Alice*, 134 S. Ct. at 2355. This is a search for an "inventive concept"—an element or combination of elements sufficient to ensure that the claim amounts to "significantly more" than the abstract idea itself. *Id.*

The Examiner finds claim 7 is directed to "displaying a product for a descriptive query according to a relevancy scores (i.e. ranking search results)." Answer 3. We find that the Examiner's formulation is adequately supported by the claim language and specification. Independent claim 7 recites gathering input data by obtaining documents with terms that match terms in a query, ranking the results using two successive algorithms, then displaying the results. This is consistent with the Specification's description of the method, as follows:

> The search engine server may perform relevancy processing for the found initial web pages to obtain relevant web pages that satisfy a predetermined criterion, and perform relevancy processing for at least one product corresponding to product identifier(s) that is/are referenced in the relevant web pages. Furthermore, the search engine server may order the at least one product that the relevancy processing has been performed according to respective relevancy score(s), and display multiple ordered products to a client.

Spec. ¶ 26. No steps in the claimed method fall outside the scope of the idea to which the Examiner finds the claim is directed.

We are not persuaded by the Appellant's assertion that the method cannot be performed in the human mind using pen and paper. Appeal Br. 14–15; *see also* Reply Br. 4. In contrast, the Examiner finds "[c]laim 7 never recites any hardware, sever, computer, etc. therefore it is possible for

the claimed invention to be performed in the human mind or a human using pen and paper." Answer 19.

The first step in the method involves "obtaining initial web pages that match a descriptive query from a web page database." A web page is essentially a document, containing content such as text and images, to which additional metadata and coded links have typically been added. As essentially a document, a web page can be, and frequently is, printed out.[2] A collection of printed documents, which represents a library of web pages on paper, could then be searched by a human looking for matching words from a query, to select documents that have the matching terms. Once a subset of documents is selected, a user could examine each document and sort them by relevancy to a query, then resort them based on certain categories that are determined not to match the query. The sorted collection of documents can then be presented, viewed, or displayed. Because we agree with the Examiner that each and every operation in the claimed method can be done manually, by the human mind using pen and paper, we are persuaded that the claimed search method, which does not call for the use of any specific tool or computer, can be done mentally, as asserted by the Examiner.

The Examiner also finds the claimed method is similar to claims found to be directed to abstract ideas in a number of cases before our reviewing courts. *See* Answer 18–19. The cited cases appear reasonably

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[2] To be sure, independent claim 7 is directed to "ranking search results," and so it is immaterial whether the webpages themselves are printed out or merely viewed on a computer screen, as, ultimately, the activity that must be done using pen and paper is the ranking itself. Nevertheless, for the sake of completeness, we analyze every step of the claim under the "pen and paper" rubric.

relevant to "ranking search results," the Appellant does not respond to the
asserted similarities with instant claim 7, and the claims in these cases.

In addition, independent claim 7 is similar to claim 1 in *Morsa*, which
involves identifying matches and ordering the results, and was found to be
directed to an abstract idea. *Morsa v. Facebook, Inc.*, 77 F.Supp.3d 1007
(C.D.Cal. 2014), *aff'd*, 622 Fed.Appx. 915 (Mem) (Fed. Cir. 2015). Claim 1
of U.S. Patent No. 7, 904,337 B2, issued March 8, 2011, and cited in *Morsa*,
is as follows:

> 1. A method of generating a product/service/benefit result list in
> response to a match request from a PSB seeker using in whole or
> in part a computer-compatible network, comprising:
>
> maintaining a database including a plurality of PSB
> listings, wherein each PSB listing is associated with a PSB
> provider, at least one PSB criteria factor, and a modifiable bid
> amount that is independent of other components of the PSB
> listing, the bid amount being associated with at least one of the
> PSB and the PSB provider, the bid amount corresponding to a
> money amount that is deducted from an account of a PSB
> provider associated with the PSB upon receipt of a request of at
> least one of information about the PSB provider or the PSB itself;
>
> receiving a PSB match request, which includes seeker
> criteria information, from the PSB seeker;
>
> identifying the PSB listings having PSB criteria which
> generate a match with the PSB match request;
>
> ordering the identified PSB listings into a PSB result list
> in accordance with the values of the respective bid amounts for
> the identified PSB listings;
>
> receiving a retrieval request from the PSB seeker to
> retrieve information associated with a PSB listing in the result
> list;
>
> recording a retrieval request event including account
> identification information corresponding to the PSB provider, to
> permit maintenance of accurate account records.

We, therefore, are unpersuaded the Examiner erred in asserting that independent claim 7 is directed to an abstract idea. We next determine if the claim recites, in whole or in part, an "inventive concept" that transforms the abstract idea into eligible subject matter.

Although independent claim 7 does not specifically require a computer to perform the steps of the method, the Specification describes that if computers were used, the method could be implemented on a variety of "universal", i.e., general-purpose, computer platforms:

> The disclosed method and system may be used in an environment or in a configuration of universal or specialized computer system(s). Examples include a personal computer, a server computer, a handheld device or a portable device, a tablet device, a multi-processor system, and a distributed computing environment including any system or device above.

Spec. ¶ 24.

Looking at the steps of the method for an "inventive concept," we are not persuaded by the Appellant's argument that the claimed method is "necessarily rooted in computer technology to overcome a problem specifically arising in the technical field of network data processing." Appeal Br. 15. As noted above, the claim does not require computer technology to perform any of the steps, and relates only to networks tangentially, in that web pages are typically deployed over a network. However, because the method encompasses performance using paper, instead of computer networks, we are unpersuaded that the argued "computer technology" is required within the scope of the claim.

We are unpersuaded by the Appellant's argument that the increased quality of search results for users "provides an improvement to the technology and/or technical field of network data processing by reducing the

number of redundant operations in a search engine server, thereby improving operation speed, work efficiency and work performance of the search engine server." Appeal Br. 17; *see also Id.* 22 ("the features of claim 7 improve at least the technology and/or technical field of network data processing"), *Id.* 26 ("claim 7 improves an existing technological process"), Reply Br. 4 ("The recited features improve operation speed, work efficiency, and performance of an engine server.")

The claimed method sorts search results to provide more relevant results to a user earlier in the displayed search results. This requires extra processing to perform the claimed "relevancy processing." However, even without these steps, a search that returns matching results does provide the results to the user, who may have to search through the results manually to determine the most relevant results. A user could do that, however, without having to conduct additional searches. The claimed method merely tries to avoid additional searches, but that only indirectly affects a computer server that performs the claimed relevancy processing. A computer that performs the relevancy processing, compared to one that does not, does not "improve operation speed, work efficiency, and performance of an engine server," because the server's search function is identical, before relevancy processing, as without relevancy processing. The process may improve the experience for the user, but the computer performs more work with relevancy processing than without, so it cannot be said the extra work improves the speed, efficiency, or performance *of the server. See, e.g.,* Appeal Br. 21 ("a user does not need to repeatedly search for related products").

The Appellant finally argues "the claims include additional steps and features that are not routine or conventional." Reply Br. 6; *see also* Appeal Br. 21 ("unconventional features that confine claim 7 to a particular useful application"), *Id.* at 27 ("claim 7 adds limitations other than what are well-understood, routine, and conventional in the field of processing transactions").

We are not persuaded by the Appellant's argument, however, because a novel and non-obvious claim directed to a purely abstract idea is, nonetheless, patent-ineligible. *See Mayo*, 566 U.S. at 90. *See also Diamond v. Diehr*, 450 U.S. 175, 188–89 (1981) ("The 'novelty' of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.").

The Appellant's arguments do not persuasively demonstrate error on the part of the Examiner in rejecting independent claim 7. For these reasons, we sustain the rejection of independent claim 7 under 35 U.S.C. § 101. We also sustain the rejection of dependent claims 8–14 that were not argued separately. *See* Appeal Br. 50.

Rejection of Claims 15–25 and 27 Under 35 U.S.C. § 101

The Appellant advances arguments directed to independent claims 15 and 21 that are substantially identical to those advanced for independent claim 7. Specifically, the arguments assert the claims cannot be performed by a human with pen and paper, are "deeply rooted" in network technology, add unconventional steps that confine the claims to a particular useful application, include improvements to another technology or technical field, and, add specific limitations other than what is well-understood, routine, and

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conventional in the field. *See* Appeal Br. 29–50. We are unpersuaded by these arguments for the same reasons as set forth for independent claim 7, above. For these reason, we sustain the rejection of independent claims 15 and 21, as well as dependent claims 16–20, 22–25, and 27, under 35 U.S.C. § 101.

Rejection Under 35 U.S.C. § 112, First Paragraph

Dependent claim 27 recites:

> wherein performing the second relevancy processing further comprises assigning a respective score to a corresponding product identifier of a particular web page group of the multiple web page groups based at least in part on a number of web pages in the particular web page group, a launching time of a product associated with the corresponding product identifier, and a degree of relevancy between the product associated with the corresponding product identifier and the descriptive query.

The Examiner finds "the disclosure does not reveal the manner in which the score is ultimately determined (i.e. calculated), because the "failure to disclose any meaningful structure/algorithm as to how this value is generated raises questions whether applicant truly had possession of this feature at the time of filing." Answer 5–6.

We are persuaded by the Appellant's argument that the ordinary artisan would have recognized that the Appellant had possession of the invention at the time of filing, at least based on paragraphs 59–61, 77, and 78 of the Specification, and Figure 3. Appeal Br. 54. We agree with the Appellants that the Specification discloses the following, which is substantially similar to the claim language:

> During the scoring process, a product identifier may be scored based on factors such as the number of web pages gathered under that product identifier, second relevancy scores

of respective web pages, certain attributes (such as price and launching time, etc.) of that product identifier, and relevancy between the product and the query term.

Spec. ¶ 60.

For these reason, we do not sustain the rejection of claim 27 under § 112, first paragraph, as failing to meet the written description requirement.

Rejection of Claims 7–14 Under 35 U.S.C. § 112, Second Paragraph

The Examiner finds that, citing recited claim language in independent claim 7, "one would not be reasonably apprised of whether or not the 'product identifier being obtained based at least in part on a corresponding relationship between the product identifier and the relevant web page that is stored in the web page database' is required for purposes of infringement, because the functionality in the clause is "not positively recited." Answer 7.

The Appellant argues that when independent claim 7 is read in light of exemplary paragraphs 26, 46, 47, and 49 of the Specification as filed, it is clear the step must be performed to infringe independent claim 7. Reply Br. 8; *see also* Appeal Br. 54–59.

We agree with the Appellant. The function of obtaining a product identifier based on a relationship between a product identifier and a web page is recited in claim 7 in the identical terminology rejected by the Examiner, so the issue is not what the claim says, because the words themselves are positively recited. Instead, the issue is whether the recited function is required to be performed. The Specification describes the step, saying:

> [T]he method stores the web page, the at least one product identifier and a relationship between the web page and the product identifier into a pre-set database. Upon searching the database based on a query term and finding a web page matching

the query term, a product identifier is outputted based on a
relationship between the matched web page and the product
identifier.

Spec. ¶ 46. We are persuaded that the ordinary artisan would have
understood the claim limitations, in light of this portion of the
Specification, as indicating that the above-recited language is a required
step.

For these reasons, we do not sustain the rejection of independent
claim 7, nor its dependent claims 8–14, under 35 U.S.C. § 112, second
paragraph, as indefinite.

Rejection of Claim 27 Under 35 U.S.C. § 112, Second Paragraph

Dependent claim 27 recites:

[T]he second relevancy processing further comprises assigning a
respective score to a corresponding product identifier of a
particular web page group of the multiple web page groups based
at least in part on a number of web pages in the particular web
page group, a launching time of a product associated with the
corresponding product identifier, and a degree of relevancy
between the product associated with the corresponding product
identifier and the descriptive query.

In rejecting claim 27, the Examiner finds "one of ordinary skill in the
art cannot determine how to avoid infringement of this claim because they
are not apprised of what is to be determined as a 'score,'" because there is
no "structure/algorithm" in the Specification. Answer 8.

We are persuaded by the Appellant's argument that "[a]lthough a
structure/algorithm may be one of the many ways to generate a score,
Appellant submits that it is not necessary to recite a structure/algorithm in
claim 27." Reply Br. 10; *see also* Appeal Br. 59–62.

The test for definiteness under 35 U.S.C. § 112, second paragraph, is whether "those skilled in the art would understand what is claimed when the claim is read in light of the specification." *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986) (citations omitted). The claim language is certainly broad and does not limit the assignment of the score to a particular algorithm, but only recites what factors are to be considered. Nevertheless, the Examiner's concerns are a matter of claim breadth, not indefiniteness. "Breadth is not indefiniteness." *In re Gardner*, 427 F.2d 786, 788 (1970).

For these reasons, we do not sustain the rejection of claim 27 under 35 U.S.C. § 112, second paragraph, as indefinite.

Rejection of Claims 7–14 Under 35 U.S.C. § 103(a)

We are not persuaded by the Appellant's argument that Sundaresan fails to disclose the "determining" and "reducing" steps based on "a category of a keyword in the descriptive query," because Sundaresan, instead, uses "additional words," or "extra word," from user selections after a query is made to make determinations that may reduce a relevancy score. Appeal Br. 65–69; *see also* Reply Br. 11.

Sundaresan discloses a system "that generates relevancy rankings based upon user item selections that are made after a set of search result items has been presented to the user in response to the user's search request." Sundaresan ¶ 31. Sundaresan notes "to be useful for future relevancy determinations; some descriptive factor of the selected item must be abstracted out from the user's selection in order to use that descriptive factor for future relevancy determinations." *Id.* ¶ 32.

The "descriptive factor" corresponds to the claimed "category of a product identifier."

Sundaresan explains "the descriptive factors that may be used to identify similar relevant items in the future are additional words in a descriptive field for an item that were not part of the user's original search query keywords." *Id.* ¶ 33. Sundaresan notes that some descriptive factors may be used to "lower a relevancy score" for future searches. *Id.* Sundaresan provides an example where a user searches for "ipod nano," but some results with categories based on descriptive factors of "transmitter" and "leather" were not selected in the past by users, so their presence in returned results lowers the relevancy scores for pages returned containing words corresponding to the categories "transmitter" or "leather." *Id.* ¶¶ 34– 36. Thus Sundaresan meets the language of the "determining" and "reducing" limitations.

The Appellant also argues Sundaresan "teaches away" from reducing scores, because it also includes examples where scores are increased. Appeal Br. 69–70. "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." *In re Kahn*, 441 F.3d 977, 990 (Fed. Cir. 2006) (citations and internal quotation marks omitted). *See also In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004) (noting that merely disclosing more than one alternative does not teach away from any of these alternatives if the disclosure does not criticize, discredit, or otherwise discourage the alternatives).

We are unpersuaded, however, because Sundaresan discloses the following: "Similarly, items in a result set for an 'ipod nano' search query with largely irrelevant additional descriptive words such as 'leather', 'transmitter', or 'case' will reduce the relevancy score for those items." Sundaresan ¶ 49. Sundaresan, thus, does not discourage reducing relevancy scores, because it also teaches that very action.

For the above reasons, the Appellant has not persuasively shown error in the Examiner's rejection of independent claim 7, so we sustain the rejection under 35 U.S.C. § 103(a). We also sustain the rejection of dependent claims 8–14 that are argued only by their relationship with independent claim 7. Appeal Br. 71.

The Appellant argues error by the Examiner for not giving patentable weight to the language "the product identifier being obtained based at least in part on a corresponding relationship between the product identifier and the relevant web page that is stored in the web page database." Reply Br. 10; *see also* Appeal Br. 54–59. This action by the Examiner originates in the indefiniteness rejection of claim 7 (Answer 7), but is carried over to the obviousness rejection (Answer 10).

Although we agree with the Appellant on the indefiniteness issue, and, thus, disagree with the Examiner that this language is outside the claim scope, the error is moot, because Sundaresan discloses the claimed "corresponding relationship" is based on the web page *containing* the product identifier. *See* Sundaresan ¶ 21.

Rejection of Claims 15–25 and 27 Under 35 U.S.C. § 103(a)

The Appellant's arguments directed to independent claims 15 and 21 are substantially identical to those advanced for claim 7. *See* Appeal Br. 71–

85. We sustain the rejection of these claims for the same reasons we set forth above at independent claim 7. We also sustain the rejection of dependent claims 16–20, 22–25, and 27, which are not argued separately. *See* Appeal Br. 78, 86.

DECISION

We AFFIRM the rejection of claims 7–25 and 27 under 35 U.S.C. § 101.

We REVERSE the rejection of claim 27 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

We REVERSE the rejection of claims 7–14 and 27 under 35 U.S.C. § 112, second paragraph, as indefinite.

We AFFIRM the rejections of claims 7–25 and 27 under 35 U.S.C. § 103(a).

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