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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* JAYANTA BASAK and RAJENDRA SUREKA

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Appeal 2017-005104  
Application 12/053,686<sup>1</sup>  
Technology Center 3600

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Before BRUCE R. WINSOR, HUNG H. BUI, and  
JOSEPH P. LENTIVECH, *Administrative Patent Judges*.

BUI, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants seek our review under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–7 and 9–25, which are all the claims pending in the application. Claim 8 is canceled. Claims App'x. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.<sup>2</sup>

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<sup>1</sup> According to Appellants, the real party in interest is International Business Machines Corporation. App. Br. 3.

<sup>2</sup> Our Decision refers to Appellants' Appeal Brief ("App. Br.") filed March 24, 2016; Corrected Appeal Brief ("Corrected App. Br.") filed July 20, 2016; Reply Brief ("Reply Br.") filed February 6, 2017; Examiner's Answer ("Ans.") mailed December 16, 2016; Final Office Action ("Final Act.")

## STATEMENT OF THE CASE

Appellants' invention relates to "a method, system and computer program product for designing a catalog for a list of items with optimized placement of items on the catalog [based on past user transactions] in order to maximize the interest of the merchant, which can be in terms of revenues, sales or number of clicks." Spec. ¶¶ 2, 14; Abstract.

Claims 1, 7, 13, and 19 are independent. Claim 1 is illustrative of the claimed subject matter, as reproduced below:

1. A method comprising:
    - deploying, by a computing device, a plurality of initial catalogs, different ones of said plurality of initial catalogs having the same item placed in different locations in said initial catalogs;
    - obtaining, by said computing device, user responses for said plurality of initial catalogs;
    - evaluating, by said computing device, said user responses and transaction history based on a user viewing items in one of said plurality of initial catalogs;
    - estimating, by said computing device, relationships between the location of said items in said one of said plurality of initial catalogs and corresponding user responses;
    - determining, by said computing device, an optimized position for each item to be located in a final catalog using said relationships; and
    - forming, by said computing device, said final catalog with each said item being placed at said optimized position,
- said estimating further comprising computing, by said computing device, search costs from said user responses by determining an effect that relative positions of said item have on said user responses.

Corrected App. Br. 2 (Claims App'x).

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mailed October 21, 2015; and original Specification ("Spec.") filed March 24, 2008.

### EXAMINER'S REJECTION

Claims 1–7 and 9–25 stand rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. Final Act. 4.

### DISCUSSION

In *Alice Corp. v. CLS Bank International*, 134 S. Ct. 2347 (2014), the Supreme Court reiterates an analytical two-step framework previously set forth in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 79 (2012), “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice*, 134 S. Ct. at 2355. The first step in the analysis is to “determine whether the claims at issue are directed to one of those patent-ineligible concepts,” such as an abstract idea. *Id.* If the claims are directed to eligible subject matter, the inquiry ends. *Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1349 (Fed. Cir. 2017); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed. Cir. 2016).

If the claims are directed to a patent-ineligible concept, the second step in the analysis is to consider the elements of the claims “individually and ‘as an ordered combination’” to determine whether there are additional elements that “‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 134 S. Ct. at 2355 (citing *Mayo*, 566 U.S. at 79, 78). In other words, the second step is to “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.* (citing *Mayo*, 566 U.S. at 72–73).

In rejecting claims 1–7 and 9–25 under 35 U.S.C. § 101, the Examiner determines (1) these claims are directed to an abstract idea of “designing a catalog [based on user response and transaction history],” which is both a fundamental economic practice and a “method[] of organizing human activity,” and (2) the additional elements in the claims, whether taken separately or in an ordered combination, do not amount to significantly more than the abstract idea, because (i) “the claims do not recite an improvement to another technology or technical field, nor do they recite an improvement to the functioning of the computer itself” and (ii) the claims require no more than “a generic computer to perform generic computer functions that are well-understood, routine, and conventional activities previously known to the industry.” Final Act. 4; Ans. 2. The Examiner also determines these claims are directed to an abstract idea because the steps recited in these claims, including, for example, “evaluating . . . said user responses and transaction[s] history based on a user viewing items in one of said plurality of initial catalogs”; “estimating . . . relationships between location of said items . . . and corresponding user responses”; and “determining . . . an optimized position for each item to be located in a final catalog using said relationships” can also be performed manually by a human with pen and pencil. Final Act. 3; *see also CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (Fed. Cir. 2011).

*Alice/Mayo—Step 1 (Abstract Idea)*

Turning to the first step of the *Alice* inquiry, Appellants argue claims 1–7 and 9–25 are not directed to an “abstract idea” because:

- (1) similar to *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014), “Appellant’s claims confine the abstract idea to a particular useful application by using the computer device to estimate the relationships between locations of items within a catalog and the user responses, and then determine an optimized position for items within the catalog using such relationships” (App. Br. 11–13);
- (2) “Appellant’s claims . . . solve a problem with a claimed solution that is necessarily rooted in computer technology and more specifically, the claims solve the problem of providing customized catalogs” (App. Br. 13–14);
- (3) “[t]he present invention differs from other claims found by the courts to recite abstract ideas in that it does 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.’ . . . The claims do not recite a mathematical algorithm; nor recite a fundamental economic or longstanding commercial practice. The claim addresses a business challenge (designing an electronic catalog with optimized placement of items) that is particular to the Internet” (App. Br. 16).

App. Br. 11–19.

Appellants’ arguments are not persuasive. Appellants’ Specification is directed to “designing a catalog for a list of items with optimized placement of items on the catalog [based on past user transactions] in order to maximize the interest of the merchant, which can be in terms of revenues, sales or number of clicks.” Spec. ¶¶ 2, 14; Abstract. Embodiments of Appellants’ Specification describe a process of designing a catalog with items placed at determined positions (Figure 2) and a process of dynamically optimizing placement of items in a catalog (Figure 5). Based on Appellants’

Specification, we agree with the Examiner that the claims are directed to an abstract idea of “designing a catalog” [based on user response and transaction history] which is both a fundamental economic practice and a “method[] of organizing human activity.” Ans. 2, 5.

Such activities are squarely within the realm of abstract ideas. Designing a catalog with optimized placement of items in order to maximize the interest of the merchant in terms of revenues, sales or number of clicks is a fundamental business practice, like (1) risk hedging in *Bilski*; (2) intermediated settlement in *Alice*, 134 S.Ct. at 2356–57; (3) verifying credit card transactions in *CyberSource*, 654 F.3d at 1370; (4) guaranteeing transactions in *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1354 (Fed. Cir. 2014); (5) distributing products over the Internet in *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709 (Fed. Cir. 2014); (6) determining a price of a product offered to a purchasing organization in *Versata Dev. Grp., Inc. v. SAP Am., Inc.* 793 F.3d 1306 (Fed. Cir. 2015); (7) pricing a product for sale in *OIP Techs, Inc. v. Amazon.com, Inc.*, 788 F.3d 1359 (Fed. Cir. 2015); and (8) collecting and analyzing information to detect and notify of misuses in *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093–94 (Fed. Cir. 2016). Designing a catalog to maximize the merchant’s interest is also a building block of a market economy. Thus, designing a catalog to maximize the merchant’s interest, like risk hedging, intermediated settlement, and verifying credit card transactions, is an “abstract idea” beyond the scope of § 101. *See Alice*, 134 S. Ct. at 2356.

Moreover, all the steps recited in Appellants’ claims 1, 13, and 19 (similarly system claim 7) including, for example, (1) “evaluating . . . said user responses and transactions history based on a user viewing items in one

of said plurality of initial catalogs”; (2) “estimating . . . relationships between location of said items . . . and corresponding user responses”; and (3) “determining . . . an optimized position for each item to be located in a final catalog using said relationships” are abstract processes of collecting, storing, and analyzing information of a specific content, i.e., catalog content. Information, as such, is intangible, and data analysis, comparisons, and algorithms are abstract ideas. *See, e.g., Microsoft Corp. v. AT & T Corp.*, 550 U.S. 437, 451 n.12 (2007); *Alice*, 134 S. Ct. at 2355; *Parker v. Flook*, 437 U.S. 584, 589, 594–95 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 71–72 (1972). Information collection and analysis, including when limited to particular content, is within the realm of abstract ideas. *See, e.g., Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1349 (Fed. Cir. 2015); *Digitech*, 758 F.3d at 1351; *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1370 (Fed. Cir. 2011). That is, “[w]ithout additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible.” *Digitech*, 758 F.3d at 1350–51 (“Data in its ethereal, non-physical form is simply information that does not fall under any of the categories of eligible subject matter under section 101”).

As also recognized by the Examiner (Final Act. 3), designing a catalog to maximize the merchant’s interest can also be performed manually using a pen and paper. *See CyberSource*, 654 F.3d at 1372–73 (“[A] method that can be performed by human thought alone is merely an abstract idea and is not patent-eligible under § 101.”); *see also In re Comiskey*, 554 F.3d 967, 979 (Fed. Cir. 2009) (“[M]ental processes—or processes of human thinking—standing alone are not patentable even if they have practical application.”);

*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972) (“Phenomena of nature . . . , *mental processes*, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work” (emphasis added)). Additionally, mental processes remain unpatentable even when automated to reduce the burden on the user of what once could have been done with pen and paper. *CyberSource*, 654 F.3d at 1375 (“That purely mental processes can be unpatentable, even when performed by a computer, was precisely the holding of the Supreme Court in *Gottschalk v. Benson*.”). Contrary to Appellants’ arguments, all the steps/functions recited in Appellants’ claims 1, 13, and 19 (similarly system claim 7) including, for example, (1) “evaluating . . . said user responses and transactions history based on a user viewing items in one of said plurality of initial catalogs”; (2) “estimating . . . relationships between location of said items . . . and corresponding user responses”; and (3) “determining . . . an optimized position for each item to be located in a final catalog using said relationships” can also be performed manually using pen and paper. Final Act. 3; Ans. 6.

Separately, we note Appellants’ claims 1, 7, 13, and 19 do not improve the performance of a computer or solve a problem specific to computers or computer networks. Appellants’ Specification and arguments do not demonstrate the claims “improve the way a computer stores and retrieves data in memory,” as the claims in *Enfish* did via a “self-referential table for a computer database.” See *Enfish*, 822 F.3d at 1336, 1339.

In fact, none of the steps recited in Appellants’ claims 1, 7, 13, and 19 provide, and nowhere in Appellants’ Specification is there any description or explanation as to how these data processing steps are intended to provide:

(1) a “solution . . . necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks,” as explained by the Federal Circuit in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014); (2) “a specific improvement to the way computers operate,” as explained in *Enfish*, 822 F.3d at 1336; or (3) an “unconventional technological solution . . . to a technological problem” that “improve[s] the performance of the system itself,” as explained in *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1302 (Fed. Cir. 2016).

Accordingly, we agree with the Examiner that claims 1–7 and 9–25 are directed to an abstract idea of “designing a catalog [containing a plurality of items],” which is both a fundamental economic practice and a “method[] of organizing human activity.” The claims here are ineligible because their innovation is an innovation in ineligible subject matter. No matter how much of an advance in the finance field the claims recite, the advance lies entirely in the realm of abstract ideas, with no plausibly alleged innovation in the non-abstract application realm. An advance of that nature is ineligible for patenting. As our reviewing court has held, combining several abstract ideas does not render the combination any less abstract. *RecogniCorp, LLC v. Nintendo Co., Ltd.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017) (“Adding one abstract idea . . . to another abstract idea . . . does not render the claim non-abstract.”); *see also FairWarning IP, LLC v. Iatric Systems, Inc.*, 839 F.3d 1089, 1093–94 (Fed. Cir. 2016) (patent-ineligible claims were directed to a combination of abstract ideas).

*Alice/Mayo—Step 2 (Inventive Concept)*

In the second step of the *Alice* inquiry, Appellants argue “Claims 1–7 and 9–25 each include an ‘inventive concept’” and more specifically, “contain additional elements, which are performed within the series of steps used to define the system and method for automatically designing a catalog containing a plurality of items and these additional elements, when viewed individually and/or in an ordered combination, amount to significantly more than just data manipulation.” App. Br. 17–19.

We do not agree. The Federal Circuit cases on points include (1) *DDR Holdings* and (2) *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.* 841 F.3d 1288 (Fed. Cir. 2016), both of which involve business-method inventions and can be instructive here. In *DDR* and *Amdocs*, the Federal Circuit opted to bypass *Alice* step 1 in favor of step 2. In particular, the Federal Circuit found *DDR*’s claims contain an “inventive concept” under *Alice* step 2 because *DDR*’s claims (1) do not merely recite “the performance of some business practice known from the pre-Internet world” previously disclosed in *Bilski* and *Alice*, but instead (2) provide a technical solution to a technical problem unique to the Internet, *i.e.*, a “solution . . . 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. Likewise, the Federal Circuit also found *Amdocs*’ claims contain a sufficient “inventive concept” because like *DDR*, *Amdocs*’ claims “entail[] an unconventional technological solution (enhancing data in a distributed fashion) to a technological problem (massive record flows which previously required massive databases)” and “improve the performance of the system itself.” *Amdocs*, 841 F.3d at 1300, 1302.

Under current Federal Circuit precedent, an “inventive concept” under *Alice* step 2 can be established by showing, for example, that the patent claims:

(1) provide a technical solution to a technical problem unique to the Internet, e.g., a “solution . . . necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.” (*see DDR*, 773 F.3d at 1257);

(2) transform the abstract idea into “a particular, practical application of that abstract idea,” e.g., “installation of a filtering tool at a specific location, remote from the end-users, with customizable filtering features specific to each end user” (*see Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1352, 1350 (Fed. Cir. 2016)); or

(3) “entail[] an unconventional solution ([e.g.,] enhancing data in a distributed fashion) to a technological problem ([e.g.,] massive record flows [that] previously required massive databases)” and “improve the performance of the system itself” (*see Amdocs*, 841 F.3d at 1300, 1302).

In this case, however, we find no element or combination of elements recited in Appellants’ claims 1, 7, 13, 19 that contains any “inventive concept” or adds anything “significantly more” to transform the abstract concept (i.e., designing a catalog to maximize the merchant’s interest) into a patent-eligible application. *Alice*, 134 S. Ct. at 2357. Instead, we agree with the Examiner that added computer elements such as a processor cannot transform the abstract idea into a patent eligible invention. As our reviewing court has observed, “after *Alice*, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim

patent-eligible.” *DDR Holdings*, 773 F.3d at 1256 (citing *Alice Corp.*, 134 S. Ct. at 2358)).

Because Appellants’ claims 1, 7, 13, and 19 are directed to a patent-ineligible abstract concept and do not recite something “significantly more” under the second prong of the *Alice* analysis, we sustain the Examiner’s rejection of claims 1–7 and 9–25 under 35 U.S.C. § 101.

### CONCLUSION

On the record before us, we conclude Appellants have not demonstrated the Examiner erred in rejecting claims 1–7 and 9–25 under 35 U.S.C. § 101.

### DECISION

As such, we AFFIRM the Examiner’s rejection of claims 1–7 and 9–25 under 35 U.S.C. § 101.

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