



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/819,267	08/05/2015	Elmore Eugene Pope	SPARC.645A3D1	9372
79502	7590	11/15/2019	EXAMINER	
Knobbe, Martens, Olson & Bear, LLP AMAZON TECHNOLOGIES, INC. 2040 Main Street Fourteenth Floor Irvine, CA 92614			DESAI, RESHA	
			ART UNIT	PAPER NUMBER
			3625	
			NOTIFICATION DATE	DELIVERY MODE
			11/15/2019	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

SEAZN.Admin@knobbe.com
efiling@knobbe.com
jayna.cartee@knobbe.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ELMORE EUGENE POPE,
SCOTT ALLEN MONGRAIN, JOSEPH XAVIER,
and SRIKANTH THIRUMALAI

Appeal 2018-009075
Application 14/819,267
Technology Center 3600

Before DANIEL S. SONG, JAMES P. CALVE, and
MICHELLE R. OSINSKI, *Administrative Patent Judges*.

CALVE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the decision of the Examiner to reject claims 1–14. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ “Appellant” refers to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Amazon Technologies, Inc. Appeal Br. 1.

CLAIMED SUBJECT MATTER

Because consumer purchases are driven by the availability of new technologies or product features, especially those that replace or upgrade a previously purchased product, the claimed system and process identify new product features or technologies that were not available at a certain point in time within a product category. Spec. ¶¶ 12, 13. They also assess whether the new features drive sales or enjoy popularity among consumers within a product category and make recommendations based thereon. *Id.* ¶¶ 13, 14.

Claims 1 and 10 are independent. Claim 1 is reproduced below.

1. An interactive computing system comprising one or more processors programmed with executable instructions to implement at least:
 - a server system that hosts an electronic catalog of items, the server system including a search engine that enables users to conduct searches of the electronic catalog using search queries, wherein the search engine includes a search refinement user interface that provides an option for a searcher to refine a search by selecting one or more item attributes from a listing of item attributes associated with the search, said listing based at least partly on an automated analysis of textual descriptions of items associated with the search;
 - a data repository that stores search history data reflective of searches conducted by users via the search engine;
 - an attribute trend engine that uses the search history data to identify item attributes used more frequently as search refinements during a second time period than during a first time period that precedes the second time period, the attribute trend engine thereby configured to identify search refinement trends reflective of increases in the availability or popularity of particular item attributes; and
 - a recommendation engine that generates item recommendations for users based in part on the search refinement trends identified by the attribute trend engine.

REJECTIONS

Claims 1–14 are rejected under 35 U.S.C. § 112, first paragraph, as lacking an adequate written description of the invention.

Claims 1–14 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

Claims 1–14 are rejected as directed to patent-ineligible subject matter under a judicial exception to 35 U.S.C. § 101.

Claims 1–5, 9–11, 13, and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jammalamadaka (US 2012/0066243 A1, pub. Mar. 15, 2012) and Schultz (US 6,208,988 B1, iss. Mar. 27, 2001).

Claims 6–8 and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Jammalamadaka, Schultz, and Aziz (US 2009/0299965 A1, pub. Dec. 3, 2009).

ANALYSIS

Claims 1–14 for Lack of Written Description

Claims 1–9

The Examiner finds that the Specification lacks a description of “the attribute trend engine thereby configured to identify search refinement trends reflective of increases in the availability or popularity of particular item attributes.” Final Act. 3. The Examiner finds that the “Applicant’s failure to disclose any meaningful structure/algorithm as to how this availability or popularity is identified raises questions whether the Applicant truly had possession of this feature at the time of filing.” *Id.*

Appellant argues that claim 1 discloses an algorithm to identify the claimed “search refinement trends” as item attributes used more frequently. Appeal Br. 5 (also citing Spec. ¶¶ 15, 19–21, 40, 107–17, 120–22, 132).

The Patent Laws provide “[t]he specification shall contain a written description of the invention.” 35 U.S.C. § 112, first paragraph. The test for the sufficiency of the written description is “whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (citations omitted). The test also requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art. *Id.* Although the written description requirement does not require claimed subject matter to be described identically (*Ariad*, 598 F.3d at 1352), “[t]he appearance of mere indistinct words in a specification or a claim, even an original claim, does not necessarily satisfy” section 112, paragraph one, if it does not put others on notice of the scope of the claimed invention and demonstrate possession of that invention (*Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 968 (Fed. Cir. 2002)).

We determine the original disclosure describes this claimed subject matter. The Specification describes how search refinements use product features to narrow searches. Spec. ¶¶ 107, 116. Attribute trend engine 160 then identifies product features used more often to refine a product search, used more than a threshold number of times, or used by a preset percentage of users, in a later time period compared to an earlier time period. *See* Spec. ¶¶ 19–21, 40, 107–17, 120–22, 132, Fig. 5 (step 510). Appellant argues that original claim 1 recited “an attribute trend engine that uses the search history data to identify item attributes used more frequently as search refinements during a second time period than during a first time period [that] precedes the second time period.” Appeal Br. 5. Current claim 1 does so as well.

Paragraph 40 of the Specification, cited by the Examiner (Final Act. 19–20; Ans. 4), describes how attribute trend engine 160 identifies new attributes based on a substantially greater number of customers purchasing products with new feature “X” in 2011 compared to purchases of products with that feature in 2009. These and other portions of the Specification cited in the Appeal Brief, including Figure 5’s flowchart (algorithm) and original claim 1, describe the attribute trend engine as “configured to identify search refinement trends reflective of increases in the availability or popularity of particular item attributes” sufficiently to reasonably convey to a skilled artisan that Appellant possessed this claimed subject matter in claim 1.

Thus, we do not sustain the rejection of claims 1–9 on this ground.

Claims 10–14

The Examiner finds that the Specification lacks a description of “determining, based on the recorded search refinements, that a particular item attribute has increased in popularity as a search refinement over time” as recited in independent claim 10. Final Act. 4. The Examiner finds that the “Applicant’s failure to disclose any meaningful structure/algorithm as to how this availability or popularity is determined raises questions whether the Applicant truly had possession of this feature at the time of filing.” *Id.*

We determine that the disclosures in the Specification cited above and in Figure 5 reasonably convey to a skilled artisan that Appellant possessed this subject matter. Appeal Br. 6–8. These disclosures describe how this feature “can be performed by simply determining that the attribute was used more frequently as a search refinement during a second time period than during a first time period that precedes the second time period.” *Id.* at 7.

Thus, we do not sustain the rejection of claims 10–14 on this ground.

Claim 13

The Examiner also finds that the Specification lacks a description of “generating a measure of a frequency of use of the particular item attribute as a search refinement” as recited in dependent claim 13. Final Act. 4–5.

We determine the Specification describes this feature sufficiently to reasonably convey to a skilled artisan that Appellant possessed this claimed subject matter. We agree that “[P]aragraph 19 discloses an embodiment in which the claimed ‘measure of frequency of use’ is simply a count of how many times (or ‘how often’) the attribute is used as a search refinement.” Appeal Br. 9; Spec. ¶ 19 (features newly of interest to a threshold number of percentage of users). Paragraph 110 also “discloses a variation in which the recited measure of frequency of use also considers whether the use of the refinement resulted in the user locating, viewing, and/or purchasing a product” and “more weight can be given to those refinement events in which the user’s use of the item attribute as a search refinement helped the user locate an item of interest.” *Id.* The Specification thus describes how a measure of frequency of use is generated as a search refinement.

Thus, we do not sustain the rejection of claim 13 on this ground.

Claims 1–14 as Being Indefinite

Claims 1–9

The Examiner determines claim 1 is indefinite because the metes and bounds of “increases in the availability or popularity” in “the attribute trend engine thereby configured to identify search refinement trends reflective of increases in the availability or popularity of particular item attributes” are not disclosed in the Specification sufficient that a skilled artisan is apprised of what is to be identified. Final Act. 6.

Appellant argues persuasively that the task of identifying “increases in the availability or popularity” of an item attribute in claim 1 is performed by using “search history data to identify item attributes used more frequently as search refinements during a second time period than during a first time period that precedes the second time period” as recited in claim 1. Appeal Br. 9–10 (“the claim itself makes clear that the limitation at issue (and thus infringement of the claim) can be avoided by simply refraining from using search history data ‘to identify item attributes used more frequently as search refinements during a second time period than during a first time period that precedes the second time period.’”). The Specification describes this task as discussed in the previous rejection of claim 1. This argument is supported by disclosures in the Specification, which describe how the increased use of certain item attributes as search refinements during a second time period as compared to a first time period can identify newly popular and/or available product features. Spec. ¶¶ 40, 73, 132, Figs. 3 (item 318), 5 (item 510).

Paragraph 40, which is cited by the Examiner (Ans. 4), describes how new item attributes and/or new product features are identified by attribute trend engine 160 by comparing search refinements of first and second time periods to identify substantial increases in customers purchasing a product with a feature in 2011 compared to products with that feature in 2006, e.g., because the cost for that product feature may have decreased significantly in 2011. This disclosure describes how the attribute trend engine uses search history data to identify search refinement trends reflective of increases in the availability or popularity of particular item attributes as recited in claim 1.

Thus, we do not sustain the rejection of claims 1–10.

Claims 10–14

The Examiner determines that the limitation “determining, based on the recorded search refinements, that a particular item attribute has increased in popularity as a search refinement over time” renders claim 10 indefinite because the Specification does not disclose a structure/algorithm to explain how one would determine an increase in popularity. Final Act. 6–7.

As discussed above for the written description rejection of claim 10, we determine that the Specification describes how the increase in popularity can be determined based on search history data to identify item attributes used more frequently during a second time period than during a first time period that precedes the second time period. Appeal Br. 10; *see* Spec. ¶¶ 15, 19–21, 40, 107–17, 120–22, 132. A skilled artisan would understand the scope of this limitation in light of the Specification.

Thus, we do not sustain this rejection of claims 10–14.

Claim 13

The Examiner determines claim 13 is indefinite because the limitation “generating a measure of a frequency of use of the particular item attribute as a search refinement” is not disclosed in a manner that a skilled artisan could determine the metes and bounds of the claim. Final Act. 7. We agree with Appellant that the written description of this feature in paragraphs 19, 21, and 110 of the Specification would apprise a skilled artisan of the scope of this limitation, namely, that a measure of frequency of use is generated by comparing search refinements used during earlier and later periods of time to identify those search refinements used substantially more often during a later time period than the earlier time period. Appeal Br. 10–11.

Thus, we do not sustain this rejection of claim 13.

Patent Eligibility of Claims 1–14

Section 101 of the Patent Act defines patent-eligible-subject matter as:

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.

35 U.S.C. § 101 (2012). However, “[l]aws of nature, natural phenomena, and abstract ideas are not patentable.” *Alice Corp. Pty. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014) (citation omitted).

To distinguish patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications, we first determine whether the claims are directed to a patent-ineligible concept. *Id.* at 217. If they are, we consider the elements of each claim, individually and as an ordered combination, to determine if additional elements transform the claim into a patent-eligible application, e.g., by providing an “inventive concept” that ensures the patent amounts to significantly more than a patent on the ineligible concept. *Id.* at 217–218.

The USPTO has issued guidance about this framework. *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Revised Guidance”). Under the Revised Guidance, to determine whether a claim is “directed to” an abstract idea, we evaluate whether the claim recites (1) any judicial exceptions, including certain groupings of abstract ideas listed in the Revised Guidance (i.e., mathematical concepts, certain methods of organizing human activities such as a fundamental economic practice, or mental processes); and (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)). *See* Revised Guidance, 84 Fed. Reg. at 51.

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then consider 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) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. *Id.* at 56.

Appellant argues claims 1–14 as a group. Appeal Br. 11–14. We select claim 1 as representative. 37 C.F.R. § 41.37(c)(1)(iv).

Step 1: Is Claim 1 to a Statutory Category?

We agree with the Examiner that the interactive computer system of claim 1 falls within the statutory category of machine under 35 U.S.C. § 101. Final Act. 8; *see* Appeal Br. 3 (describing claim 1 as directed to a system).

Revised Step 2A, Prong One: Are Judicial Exceptions Recited?

The Examiner finds that claim 1 involves recommending items to users, which is a fundamental economic practice and method of organizing human activity that provides an opportunity for parties to enter into a contractual relationship. Final Act. 9 (“A contractual relationship has been deemed by the Federal Circuit to be an abstract idea”). The Examiner finds that the system helps retailers to improve item recommendations in order to sell products. Ans. 6.

Appellant argues that the Examiner overgeneralizes and simplifies the claim and ignores the search refinement user interface and the attribute trend engine. Appeal Br. 12. Appellant also argues that the courts have not found as abstract a system that identifies item attributes with increased popularity as search refinements and uses this information to recommend items. *Id.*

Under the Revised Guidance, claim 1 recites the abstract ideas of (1) certain methods of organizing human activity—commercial or legal interactions in the form of advertising, marketing, or sales activities and (2) mental processes—concepts performed in the human mind (including an observation, evaluation, judgement, and opinion). Revised Guidance, 84 Fed. Reg. at 52 (Revised Step 2A, Prong One).

The claimed “server system including a search engine that enables users to conduct searches of the electronic catalog using search queries” organizes human sales activities as a user searches for products in a catalog. The Specification describes the system as related to methods that retailers use to attempt to sell products. Spec. ¶ 2. The system is used “to assist users in discovering and/or evaluating products in an electronic catalog.” *Id.* ¶ 14. “The electronic catalog content can include information about items or products, and/or services.” *Id.* ¶ 25. The server system and search engine organize the activities of users searching for items to buy in an electronic catalog, which includes information about items, products, or services to buy. Thus, this limitation recites an abstract idea.

The claimed “search refinement user interface that provides an option for a searcher to refine a search by selecting one or more item attributes from a listing of item attributes associated with the search, said listing based at least partly on an automated analysis of textual descriptions of items associated with the search” also recites the abstract idea of organizing sales activities. Item attributes are product features used to search for products in the same category. They allow a user to narrow search results by selecting one or more item attributes (features) of a product to refine a search to identify products associated with the attribute(s). *Id.* ¶¶ 17, 28, 29, Fig. 6.

This process amounts to having consumers describe a product and its features using previous labels or descriptions of other consumers to achieve more consistent descriptions of items and attributes sought for purchase. *See BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1286 (Fed. Cir. 2018) (“It amounts to having users consider previous item descriptions before they describe items to achieve more consistent item descriptions. Whether labeled as a fundamental, long-prevalent practice or a well-established method of organizing activity, this qualifies as an abstract idea.”).

The claimed “attribute trend engine that uses the search history data to identify item attributes used more frequently as search refinements during a second time period than during a first time period that precedes the second time period, the attribute trend engine thereby configured to identify search refinement trends reflective of increases in the availability or popularity of particular item attributes” recites the same abstract idea of organizing human activity involved in sales *and* mental processes or concepts performed in the human mind including observation, evaluation, and judgment. This step can be performed in a person’s mind or using pen and paper by comparing a first set of search refinements with a second set of search refinements to identify search refinement item attributes that are used more often in a second time period than a first time period. *See* Spec. ¶¶ 60, 96, 115, 132, Figs. 4 (#412), 5 (#510). This step organizes sales activities data to identify trends and new product features or attributes that are popular. *See id.* ¶¶ 13, 40.

The claimed “recommendation engine” thereafter “generates item recommendations for users based in part on the search refinement trends identified by the attribute trend engine.” Thus, it organizes human sales and marketing activities with recommendations that involve mental processes.

The Specification discloses that recommendation system 150 can identify one or more attributes associated with a search refinement and identify a product that includes the attribute or product feature. Spec. ¶ 117.

Essentially, the claimed system analyzes features that consumers use to purchase products to identify popular features and recommends products with those features to other users. *See* Spec. ¶¶ 12 (consumer purchase decisions are driven by new technologies or product features), 13 (computer system identifies features or technologies that drive sales or that are popular with consumers within product categories), 15 (compare product attributes from an earlier time period to those of a more recent time period for a given product class to identify new attributes or product features).

Recommending items (content) based on user’s preferences at a high level of generality recites an abstract idea. *See Affinity Labs of Texas LLC v. Amazon.com Inc.*, 838 F.3d 1266, 1269 (Fed. Cir. 2016) (“Like the district court, we hold that the concept of delivering user-selected media content to portable devices is an abstract idea”); *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1369–70 (Fed. Cir. 2015) (holding that claims relating to tailoring content/customizing information based on (1) information known about the user (personal characteristics) and (2) user web site navigation data recite a fundamental practice and abstract idea); *Bridge & Post, Inc. v. Verizon Commc’ns, Inc.*, 778 F. App’x 882, 887 (Fed. Cir. 2019) (non-precedential) (“Targeted marketing is a form of ‘tailoring information based on [provided] data,’ which we have previously held is an abstract idea.”); *see also* Reply Br. 5 (arguing that item recommendations are particularly useful to users of devices with small screens who are trying to browse electronic catalogs).

Making item recommendations to a user based on preferences of other users for products with that feature is likewise an abstract idea. It targets products for users with features that other users want in similar products. It identifies such features based on their popularity over a threshold number or percentage of consumers. Spec. ¶ 19. It thus organizes marketing and sales activities in ways that also involve mental processes as discussed above.

Therefore, we determine that claim 1 recites the abstract ideas of organizing human activities involved in sales and marketing activities and mental processes.

Alice Step 1, Revised Step 2A, Prong Two: Is There an Integration?

We next consider whether claim 1 recites any additional elements that integrate the abstract ideas into a practical application. Revised Guidance, 84 Fed. Reg. at 54 (Revised Step 2A, Prong Two).

Appellant argues that the claimed “search refinement user interface” and “attribute trend engine” indicates the claims are not directed to abstract ideas because “the courts have never found as abstract something similar to a system or process that identifies item attributes that have increased in popularity as search refinements, and that uses this information to provide item recommendations.” Appeal Br. 12.

As discussed above, data mining search histories to identify product features (item attributes) that consumers use to find products to buy and then tracking the increase/decrease in the use of the item attributes to spot trends and identify popular item attributes/product features recites an abstract idea.

We agree with the Examiner that these additional elements do not represent improvements in computer-related technology (Ans. 6) and thus do not integrate the abstract ideas into a practical application.

Under the Revised Guidance, additional elements that (1) represent an improvement in the functioning of a computer or an improvement to other technology or technical field, (2) that are used with a particular machine or manufacture that is integral to the claim, (3) that effect a transformation or a reduction of a particular article to a different state or thing, or (4) that apply a judicial exception in some other meaningful way beyond generally linking the use of the judicial exception to a particular technological environment may integrate the exception into a practical application. 84 Fed. Reg. at 55.

Here, the claimed server system, search refinement user interface, data repository, attribute trend engine, and recommendation engine do not reflect an improvement to computer functionality or other technical field. Servers 120 are described generically as implemented in hardware for receiving and responding to network requests from user systems 102. Spec. ¶ 23. Some capabilities may be implemented in software. *Id.* Servers 120 include web servers, application servers, database servers, combinations, or the like. *Id.*

Claim 1 recites that the server system hosts an electronic catalog of items and includes a search engine application. These generic functions do not represent improvements to computers or other technology.

Search engine 170 may be implemented in hardware and/or software and can include any system for searching an electronic catalog. *Id.* ¶ 24. Search refinement engine 172 includes any system that can determine one or more attributes associated with a subset of products in a browse node or a product category or classification. *Id.* ¶ 28. A search refinement user interface is not described *per se*, but Figure 6, reproduced below, illustrates an electronic catalog search page 600 with search refinement options 610. *Id.* ¶ 124.

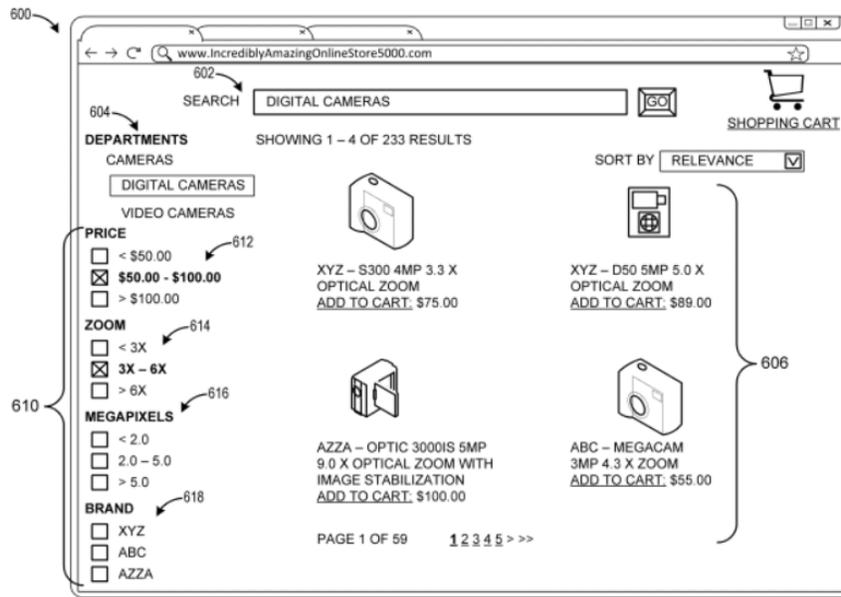


FIG. 6

Figure 6 above illustrates electronic catalog search page 600 with search refinement options 610 that include camera features (item attributes) such as brand 618. A user may select one or more item attributes 612–18 to refine a search for cameras. *Id.* The electronic catalog search page 600 may be a webpage associated with the interactive computing system 110, or it may be produced by search engine 170. *Id.* Different searches and product classifications result in different search refinement options 610. *Id.* ¶ 127.

We find no indication in the Specification that the search engine and search refinement user engine/interface improve computers. As claimed, they allow a user to enter data into a computer. Nor does Appellant present arguments or evidence of any such improvement. *See* Appeal Br. 12–13.

The claimed data repository generally includes any repository, database, or information storage system that can store information associated with items and users, and the information can include any type of data such as product descriptions, account information, customer reviews, item tags, or the like. Spec. ¶ 43.

The claimed attribute trend engine “can include any system that can identify new attributes and/or new product features based on attributes associated with products.” *Id.* ¶ 40. It may identify attributes and/or product features that are newly available for products, and these attributes/product features can be newly popular attributes. *Id.* The claimed recommendation engine recommends products with the new product feature identified by the attribute trend engine. *Id.* ¶¶ 77, 98.

None of the additional elements represent improvements in computers or other technology. Instead, they process information as such and perform generic computer functions, e.g., collecting, analyzing, and displaying data, without providing any meaningful transformation. “Information as such is an intangible.” *Elec. Power Grp. LLC v. Alstom SA*, 830 F.3d 1350, 1353 (Fed. Cir. 2016). Without more, merely collecting information, even when limited to particular content that does not change its character as information is within the realm of abstract ideas. *Id.* So too, analyzing information by steps people go through in their minds, without more, are mental processes within the abstract idea category. *Id.* at 1354.

[N]owhere does Intellectual Ventures assert that it invented an interactive interface that manages web site content. Rather, the interactive interface limitation is a generic computer element . . . which “tailors the web page to the specific individual based on the profile.” . . . Rather, the “interactive interface” simply describes a generic web server with attendant software, tasked with providing web pages to and communicating with the user’s computer.

Intellectual Ventures I, 792 F.3d at 1370. “Steps that do nothing more than spell out what it means to ‘apply it on a computer’ cannot confer patent-eligibility.” *Id.* (citing *Alice*, 573 U.S. at 224–25).

The holding in *Core Wireless Licensing S.A.R.L. v. LG Elec., Inc.*, 880 F.3d 1356 (Fed. Cir. 2018) also shows why the abstract ideas in this case are not integrated into a practical application. *See* Reply Br. 4–5. The claims in *Core Wireless* recited an improved user interface. 880 F.3d at 1362. The claimed “application summary” specified a particular manner to access a summary window, a particular type of data to be displayed in the summary window, and a particular time to display the summary window when an application is in an un-launched state. *Id.* at 1362–63. The claims thus recited a specific improvement to user interfaces that displayed a limited set of information using unconventional user interface methods. *Id.* at 1363.

Here, the alleged advance is collecting and analyzing information as such to identify particular items of information that appear more frequently or more than a threshold number of times. The advance, therefore, is not in computer, database, or server technology. These components are recited in claim 1 as generic elements that perform generic functions at a high level of generality that do not integrate the abstract ideas into a practical application. Steps of collecting and analyzing data and displaying the results specified at a high level of generality, as in the claims, do not make the claims patent-eligible. *See, e.g., BSG Tech*, 899 F.3d at 1286–87; *Elec. Power Grp.*, 830 F.3d at 1353–54; *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343, 1348 (Fed. Cir. 2014); Revised Guidance, 84 Fed. Reg. at 55 n.31.

None of these features represent improvements to computers or other technology. Appellant argues that the features are “significantly more” than an abstract idea, but does not identify any improvements to computers or technology beyond the recited abstract ideas. Appeal Br. 13–14.

Even if these techniques are “[g]roundbreaking, innovative, or even brilliant,” that is not enough for eligibility. *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 591 (2013); *accord SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1163 (Fed. Cir. 2018) (“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.”); *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1151 (Fed. Cir. 2016) (“[A] claim for a *new* abstract idea is still an abstract idea. The search for a § 101 inventive concept is thus distinct from demonstrating § 102 novelty.”); *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1315 (Fed. Cir. 2016) (“While the claims may not have been anticipated or obvious . . . that does not suggest that the idea of ‘determining’ and ‘outputting’ is not abstract, much less that its implementation is not routine and conventional.”).

In *McRO, Inc. v. Bandai Namco Games Am., Inc.*, 837 F.3d 1299 (Fed. Cir. 2016), the claims focused on a concrete improvement in the field of computer animation. The process used a combined order of specific rules that rendered information into a specific format that was used and applied to create a desired result—a sequence of synchronized, animated characters. *Id.* at 1314–15. The claims also recited an automated lip-synchronization process for 3-D characters using a specific order of rules that specified a relationship between sub-sequences of phonemes, timing, and weight of visual expression at a particular timing by a morph weight set. *Id.* at 1315.

Here, users enter item attributes (data) via a generic interface to search an electronic catalog, which is a method of organizing human sales activity.

Accordingly, we determine that claim 1 does not recite any additional elements that are sufficient to integrate the abstract ideas recited in claim 1 into a practical application.

Alice Step 2, Revised Step 2B — Inventive Concept

We next consider whether the claims recite any elements, individually or as an ordered combination, that provide an inventive concept. *Alice*, 573 U.S. at 217–18. “The second step of the *Alice* test is satisfied when the claim limitations involve more than performance of well-understood, routine [and] conventional activities previously known to the industry.” *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1367 (Fed. Cir. 2018) (internal quotations and citation omitted); *see also* Revised Guidance, 84 Fed. Reg. at 56 (explaining that the second step of the *Alice* analysis considers whether a claim adds a specific limitation beyond a judicial exception that is not “well-understood, routine, conventional” activity in the field).

As discussed above, the Specification describes, and the claims recite, generic computer components and features that perform generic functions of data collection and analysis and displaying the results of the analysis. Any innovation recited in the claims lies entirely in the realm of abstract ideas. No computer, interface, or network technology is improved thereby. Mining search engine data to identify product features (item attributes) that are used a threshold number of times and equating such usage to importance involves an abstract idea rather than an innovation in computer technology. The high level, summary description of these components illustrates their generic nature.

Thus, we sustain the rejection of claim 1 and claims 2–14, which fall therewith.

*Claims 1–5, 9–11, 13, and 14
Rejected Over Jammalamadaka and Schultz*

Claims 1–5 and 9

The Examiner finds that Jammalamadaka teaches a system of claim 1 with a data repository (database 126) and attribute trend engine that uses search history data to identify item attributes used more frequently as search refinements during a second time period than a first time period but lacks a search refinement user interface. Final Act. 11–12 (citing Jammalamadaka ¶¶ 37, 50, 51). The Examiner relies on Schultz to teach a search engine with a search refinement user interface that allows a searcher to refine a search by selecting one or more item attributes from a list of item attributes associated with the search in step 208. *Id.* at 12 (citing Schultz, 3:35–4:23, Fig. 2).

Appellant argues that Jammalamadaka does not teach an attribute trend engine that uses search history data to identify item attributes used more frequently as search refinements during a second time period than during a first time period but instead looks at user transitions from searching for product 1 to searching for product 2 during a browsing session. Appeal Br. 14–15. Appellant argues that Jammalamadaka never refers to transition counts of an attribute or uses transition counts as a measure of the popularity of the attribute as claimed. Reply Br. 6–7.

The Examiner has the better position. The Specification describes an “item attribute” as “any objective or quantifiable information associated with the product.” Spec. ¶ 32. Item attributes include *brands*. *Id.*; *see id.* ¶¶ 116, 127, Fig. 6 (#618). The Examiner correctly finds that Jammalamadaka tracks when a user refines a search (transitions) for a product by *brand*, e.g., a Prada or Gucci purse. Jammalamadaka ¶¶ 35–37, 50, 51.

Like the claimed attribute engine, Jammalamadaka saves and analyzes transition (search refinement) data to determine the number of times a user refines a search based on an item attribute (i.e., brand). *Id.* If the transition data (item attribute/brand) is selected during a second time period a certain number of times that exceeds a transition count threshold, the results from a prior time period can be updated or replaced so recommendation engine 214 can recommend products based on more current interest and demand for particular products. *Id.* ¶ 37. Jammalamadaka thus identifies item attributes (brands) used more frequently as search refinements during a second time period than during a previous first time period and treats the brands as trends reflective of increases in popularity of particular item attributes as claimed.

Thus, we sustain the rejection of claim 1 and claims 2–5 and 9, which stand or fall with claim 1. *See* Appeal Br. 15.

Claims 10, 11, 13, and 14

Appellant makes essentially the same arguments for claim 10 that the prior art does not record search refinements such as item attribute selections made by users via a search refinement user interface and determine based on the recorded search refinements that a particular item attribute increased in popularity as a search refinement over time. Appeal Br. 15–16; Reply Br. 7.

These arguments are not persuasive for the reasons discussed above for claim 1, namely, that Jammalamadaka records search refinements as transitions and determines which transitions involve brands selected more than a threshold number of times. Jammalamadaka ¶¶ 37, 50, 51. Schultz teaches a search refinement user interface that presents “major themes” that a user may select to refine a natural language search query to find an item. Schultz, 3:35–4:9, Fig. 2 (#208).

Accordingly, we sustain the rejection of claim 10 and claims 11, 13, and 14, which fall with claim 10. *See* Appeal Br. 16.

*Claims 6–8 and 12
 Rejected Over Jammalamadaka, Schultz, and Aziz*

Appellant argues patentability of these claims because they depend respectively from claims 1 and 10. Appeal Br. 16. Because we sustain the rejection of claims 1 and 10 as unpatentable over Jammalamadaka, this argument is not persuasive, and we also sustain the rejection of claims 6–8 and 12.

CONCLUSION

We reverse the rejections of claims 1–14 under 35 U.S.C. § 112, first and second paragraphs.

We affirm the rejection of claims 1–14 under the judicial exception to 35 U.S.C. § 101.

We affirm the rejections of claims 1–14 under 35 U.S.C. § 103(a).

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–14	112, para. 1	Written description		1–14
1–14	112, para. 2	Indefiniteness		1–14
1–14	101	Patent Ineligibility	1–14	
1–5, 9–11, 13, 14	103(a)	Jammalamadaka, Schultz	1–5, 9–11, 13, 14	
6–8, 12	103(a)	Jammalamadaka, Schultz, Aziz	6–8, 12	
Overall Outcome			1–14	

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).

Appeal 2018-009075
Application 14/819,267

AFFIRMED