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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* NISHITH PARIKH,  
NEELAKANTAN SUNDARESAN,  
and GYANIT SINGH

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Appeal 2017-011495  
Application 13/624,712<sup>1</sup>  
Technology Center 2100

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Before ROBERT E. NAPPI, DAVID M. KOHUT, and  
LYNNE E. PETTIGREW, *Administrative Patent Judges*.

KOHUT, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

This is a decision on appeal under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1, 2, 4–6, 8–10, 12–14, 16–18, 20–22, and 24–27.<sup>2</sup> We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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<sup>1</sup> According to Appellants, the real party in interest is eBay, Inc. App. Br. 6.

<sup>2</sup> Claims 3, 7, 11, 15, 19, and 23 were cancelled previously. App. Br. 46–49, Claims App'x.

## INVENTION

Appellants' invention relates to generating recommendations using a second, modified search inquiry after a first search inquiry yields few or no results. Spec. ¶¶ 2, 3, 11, 12.

## CLAIMED SUBJECT MATTER

Claims 1, 9, and 17 are independent. Claim 1 is representative and is reproduced below.

1. A system comprising:
  - one or more processors;
  - an active database storing active e-commerce items that are currently available for sale;
  - a historical database storing inactive e-commerce items previously available but not currently available for sale, the historical database being distinct from the active database; and
  - a low-result search query module, executable by the one or more processors, configured to:
    - receive a search query including one or more search terms;
    - perform a first query to the active database with the search query;
    - determine, in response to the first query, that a count of active e-commerce items within the active database that match the one or more search terms is less than a predefined threshold;
    - when the count of active e-commerce items is less than the predefined threshold, perform a

database query on the historical database using the search query to obtain historical result data;

modify the search query based on the historical result data;

perform a second query to the active database with the modified search query to generate one or more recommendations of active e-commerce items; and

cause the one or more recommendations of active e-commerce items to be displayed on a device.

#### REJECTIONS AT ISSUE<sup>3</sup>

- I. The Examiner rejected claims 1, 2, 4–6, 8–10, 12–14, 16–18, 20–22, and 24–27 under 35 U.S.C. § 101 as directed to patent-ineligible subject matter. Final Act. 2–5.
- II. The Examiner rejected claims 1, 2, 4–6, 8–10, 12–14, 16–18, 20–22, and 24–27 under 35 U.S.C. § 112(a) as failing to comply with the written description requirement. Final Act. 5–6.
- III. The Examiner rejected claims 1, 2, 4, 5, 8–10, 13, 16–18, 20, 21, and 24–27 under 35 U.S.C. § 103(a) as unpatentable over Levy (US 2010/0268661 A1, published Oct. 21, 2010) and Whitman (US 2007/0239671 A1, published Oct. 11, 2007). Final Act. 8–16.

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<sup>3</sup> Appellants make arguments regarding the Examiner’s additional rejections (Final Act. 18–22) with respect to the claims on appeal. App. Br. 40–44; Reply Br. 8. We do not reach these additional rejections or the arguments directed to them as the issues discussed below are dispositive of the appeal.

- IV. The Examiner rejected claims 6, 14, and 22 under 35 U.S.C. § 103(a) as unpatentable over Levy, Whitman, and Mukherjee (US 8,612,306 B1, issued Dec. 17, 2013). Final Act. 16–17.
- V. The Examiner rejected claims 6, 14, and 22 under 35 U.S.C. § 103(a) as unpatentable over Levy, Whitman, and Petropoulos (US 2003/0146939 A1, published Aug. 7, 2003). Final Act. 17–18.

## ANALYSIS

### *Rejection I: Patent-ineligible Subject Matter*

The issue we consider is whether the Examiner erred in rejecting claim 1 as being directed to patent-ineligible subject matter, specifically, (1) did the Examiner err in determining that claim 1 is directed to an abstract idea, and (2) did the Examiner err in determining that claim 1 does not recite additional limitations amounting to significantly more than the claimed abstract idea?

The Examiner performs a two-step analysis to determine patent eligibility as set forth in *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 32 S. Ct. 1289, 1296–97 (2012), and reiterated in *Alice Corp. v. CLS Bank International*, 134 S. Ct. 2347, 2355 (2014). In the first step, the Examiner determines if the claims are directed to a patent ineligible concept, such as an abstract idea. *Alice*, 134 S. Ct. at 2355. If the claims are directed to an abstract idea, then the Examiner proceeds to the second step. In the second step, the Examiner considers whether the claims, individually and as an ordered combination, recite an inventive concept—an element or combination of elements sufficient to ensure the claims amount to

“significantly more” than the abstract idea and transform the nature of the claims into a patent-eligible concept. *Id.* We address each step in turn.

Step 1

The Examiner determines that claim 1 is directed to abstract ideas involving an idea of itself and organizing human activity including gather existing data and organizing information through mathematical correlations. Final Act. 3; Ans. 3. The Examiner determines the acts of obtaining historical data, generating recommendations, counting recommendations, selecting and returning one or more of the recommendations, then displaying the one or more items related to the selected recommendations by means of query expansion are based on an idea of itself that can be performed mentally, using pen and paper, or using mathematical concepts, by a person having access to existing data. Ans. 3.

The Examiner further determines that the claim scope is similar to the concepts previously identified as abstract ideas, such as in *Classen Immunotherapies, Inc. v. Biogen IDEC*, 659 F.3d 1057 (Fed. Cir. 2011) (comparing new and stored information and using rules to identify options), *Electric Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016) (collecting and analyzing data, and displaying results), and *Intellectual Ventures LLC v. Capital One Bank* (collecting and separating information, using categories to organize store and transmit information, and presenting information to users based on characteristics). Ans. 3. Like the claims in *Classen*, *Electric Power*, and *Intellectual Ventures*, the Examiner determines that claim 1 relates to the abstract ideas of data collection, analysis, and comparisons using rules, which can be performed as a mental process. *Id.*

Appellants argue the claim does not recite methods of organizing human activity, and that the Examiner erred in the first step of the two step analysis because the Examiner failed to provide a comparison to a similar concept identified by the courts as an abstract idea. App. Br. 15–16.

We do not agree that the Examiner failed to establish claim 1 is directed to an abstract idea. Claim 1 recites the steps of receiving a search query, performing a first query to the active database with the search query, determining that a count of active e-commerce items within the active database that match the one or more search terms is less than a predefined threshold, performing a database query on the historical database using the search query to obtain historical result data, modifying the search query based on the historical result data, performing a second query to the active database with the modified search query to generate one or more recommendations of active e-commerce items, and causing the one or more recommendations of active e-commerce items to be displayed on a device. App. Br. 46, Claims App'x. We agree with the Examiner's findings that the steps in claim 1, like in *Classen*, *Electric Power*, and *Intellectual Ventures*, are directed to abstract ideas involving an idea of itself, i.e., data collection (active and historical databases storing information), analysis (steps of receiving a search query, performing a first query to the active database with the search query, determining that a count of active e-commerce items within the active database that match the one or more search terms is less than a predefined threshold, performing a database query on the historical database using the search query to obtain historical result data), and comparisons using rules (modifying the search query based on the historical result data, performing a second query to the active database with the

modified search query to generate one or more recommendations of active e-commerce items), which can be performed as mental processes.

Further, Appellants argue the Examiner oversimplified the claim. App. Br. 16–17. Appellants argue that there is no risk of preemption, except that the Examiner has over-simplified the claims and provided an unreasonably broad characterization. *Id.* at 20–21.

“The § 101 inquiry must focus on the language of the Asserted Claims themselves.” *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1149 (Fed. Cir. 2016); *see Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1345 (Fed. Cir. 2013) (admonishing that “the important inquiry for a § 101 analysis is to look to the claim”); *see also Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343, 1346 (Fed. Cir. 2014) (“We focus here on whether the claims of the asserted patents fall within the excluded category of abstract ideas.”). “An abstract idea can generally be described at different levels of abstraction.” *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016). As our reviewing court has cautioned, however, characterizing claims at a “high level of abstraction and untethered from the language of the claims all but ensures that the exceptions to § 101 swallow the rule.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337 (Fed. Cir. 2016); *see Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1347 (Fed. Cir. 2017) (we must “articulate what the claims are directed to with enough specificity to ensure the step one inquiry is meaningful.”).

Appellants do not persuade us that the abstract ideas identified by the Examiner are untethered from the language of and over-generalize the claims. As the Examiner’s analysis shows, the focus of the claims is the

abstract idea of an idea of itself. Although the Examiner states at a high level of abstraction that the claims are “directed towards a technique for performing a search and returning results,” and omits the specifics of how each specific step in the claim falls within the category of an abstract idea, we determine that the abstract idea proposed by Examiner still is sufficiently tethered to the language of the claims because, as noted *supra*, the Examiner properly and reasonably determined the claim is directed to an abstract idea involving an idea of itself, i.e., data collection, analysis, and comparisons using rules. Final Act. 3.

Regarding Appellants argument that the claims do not preempt all the ways to provide e-commerce recommendations (App. Br. 20), we note that “while preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015); *see Fairwarning IP, LLC v. Iatric Systems, Inc.*, 839 F.3d 1089, 1098 (Fed. Cir. 2016) (“the absence of complete preemption does not demonstrate patent eligibility”). “The Supreme Court has made clear that the principle of preemption is the basis for the judicial exceptions to patentability. For this reason, questions on preemption are inherent in and resolved by the § 101 analysis.” *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) (citation omitted).

Additionally, Appellants argue claim 1 improves on existing technological processes, similar to the claims in *Enfish* and *Thales*, by addressing the problem of a site being unable to match any items to a search query and presenting a solution where a historical database is accessed to modify the search query to generate one or more recommendations. App.

Br. 17–20 (citing *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336, 1337 (Fed. Cir. 2016) and *In re Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1348 (Fed. Cir. 2017)). Appellants further their argument that claim 1 is not directed to an abstract idea and improves on existing technological processes/functionality because it recites a specialized process for providing recommendations by accessing historical data. App. Br. 20–21 (citing *Enfish*, 822 F.3d at 1339 and *McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d 1299, 1307, 1314–1315 (Fed. Cir. 2016)).

We do not agree that claim 1 improves on an existing technological process/functionality. The Specification states the claims address the problem of “many situations where the site is unable to match the query to any items or only able to match the query to a few items” and solves the problem

by accessing a historical database storing inactive e-commerce items previously available but not currently available for sale to modify the search query based on the historical result data, and to perform a second query to the active database with the modified search query to generate one or more recommendations of active e-commerce items.

App. Br. 18 (citing Spec. ¶ 3). The Specification discusses giving a user a good experience by preventing a situation where a user sees no or little inventory from a site during an e-commerce experience. Spec. ¶¶ 3, 12. We do not see, nor do Appellants direct our attention to, where or how the Specification discusses a specialized process for providing recommendations or specific means to improve the relevant technology. Preventing little to no inventory being returned in a search result by searching a historical database to provide a better search is not a technical improvement; rather, as

described in the Specification, providing better search results, thereby turning a bad user experience into a good experience, is a result that itself is the abstract idea and merely invokes a generic process of comparing and analyzing data. *See* Spec. ¶ 12.

Additionally, we are not persuaded claim 1 recites a specific improvement to computer functionality or a computer-related technology, because Appellants have not provided evidence of such. *See Enfish*, 822 F.3d at 1336, 1339; *McRo*, 837 F.3d at 1314–1315. For example, Appellants have not demonstrated how claim 1 improves computer functionality or improves computer related technology “by accessing a historical database storing inactive e-commerce items previously available but not currently available for sale to modify the search query based on the historical result data, and to perform a second query to the active database with the modified search query to generate one or more recommendations of active e-commerce items.” App. Br. 18 (citing Spec. ¶ 3).

Based on the foregoing reasons, we determine claim 1 relates to the concept of data collection, analysis, and comparisons using rules, which can be performed as a mental process by a person having access to the existing data. Accordingly, we agree with the Examiner that claim 1 is directed to an abstract idea.

### Step 2

Under the second step of the *Alice* framework, the Examiner determines claim 1 does not recite additional limitations amounting to significantly more than the claimed abstract idea to transform the nature of the claim into a patent-eligible concept. Final Act. 3–5; Ans. 4–6. The Examiner finds that the additional limitations merely are generic computer

components and a computer network performing their basic functions, amounting to implementing the abstract idea on a computer. Final Act. 3–5; Ans. 4–6. Specifically, the Examiner determines that the claimed invention uses a conventional computer, functions, and network to obtain data, identify other data based on the obtained data and compare the data sets and does not add anything significant beyond the basic computer, computer functions, and computer network. Final Act. 3–5; Ans. 4, 6. The Examiner further determines that the claim elements, individually and in an ordered combination, are conventional in the art and do not provide an improvement to a computer or any other technology. Final Act. 3–5; Ans. 5.

Appellants argue claim 1 includes an inventive concept found in the nonconventional and nongeneric arrangement of computer components, similar to the claims of *Bascom*. App. Br. 22–24 (citing *Bascom Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016)).

We are not persuaded. Claim 1 requires a generic processor and generic databases performing conventionally. Appellants have not provided sufficient evidence to show how the arrangement of the claim limitations is nongeneric or nonconventional, so as to transform to the inventive concept they contend exists. Nor do we find where the individual claim limitations have been transformed into an inventive concept that amounts to significantly more than the ineligible concept.

Moreover, in *Bascom*, the court held that the claims were directed to a technical solution which overcomes a technical problem. *Bascom*, 827 F.3d at 1350–1351. As discussed above, Appellants have not provided sufficient evidence to show, nor do we find, where claim 1 recites a specific technical

solution, or a technical problem, or improvement to computer functionality for performing a database query on the historical database using the search query to obtain historical result data, and modifying the search query based on the historical result data. Unlike *Bascom*, claim 1 does not describe a technical solution which overcomes a technical problem, and, thus, does not sufficiently improve existing technology. Rather, claim 1 uses technology to improve a process.

Citing to *DDR Holdings*, Appellants contend claim 1 is an improvement in computer technology because the user is provided better options for e-commerce instead of receiving no or few suggestions. App. Br. 25; *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014). Further, Appellants argue the challenge of receiving responses with no or few suggestions is Internet-centric, and, thus, necessarily rooted in computer technology, similar to the claims in *DDR Holdings*. App. Br. 24–26.

Appellants' arguments are unpersuasive. In *DDR Holdings*, the claims addressed the problem of retaining website visitors, a problem that was not known from the pre-Internet world. *DDR Holdings*, 773 F.3d at 1257. Therefore, the solution to that problem was necessarily rooted in technology. *Id.* Appellants have not provided sufficient evidence to show, nor do we find, how a user provided with better options for e-commerce instead of receiving no or few suggestions is a problem that was not known from the pre-Internet world. As we stated above, this problem is not a problem unique to e-commerce, but rather was a burdensome process in commerce generally. We are not persuaded that the claims are a challenge particular to the world of e-commerce, or more broadly, the Internet.

Accordingly, when the limitations of claim 1 are considered, individually and as an ordered combination, they amount to nothing more than an attempt to patent the abstract idea embodied in the steps of the claim. *See* Final Act. 3–5; Ans. 4–6. The additional limitations of claim 1 fail to transform the nature of the claim into patent eligible subject matter.

For the above reasons, Appellants have not apprised us of error in the Examiner’s determination that claim 1 is directed to patent-ineligible subject matter. Independent claims 9 and 17 recite limitations similar to claim 1 and are argued together with claim 1. App. Br. 26; *see also id.* at 47, 48, Claims App’x. Claims 2, 4–6, 8, 10, 12–14, 16, 18, 20–22, and 24–27 depend from one of independent claims 1, 9, and 17, and are not argued separately. Accordingly, we are not persuaded of error and sustain the Examiner’s rejection of claims 1, 2, 4–6, 8–10, 12–14, 16–18, 20–22, and 24–27.

### *Rejection II*

#### *Written Description*

The Examiner finds that the limitation “the historical database being distinct from the active database” in claim 1 is not supported by the Specification. Final Act. 6. The Examiner further cites to Figure 1 of the instant application, item 126, in support of the finding that the databases are not distinct. Ans. 7–8. Appellants argue the Specification at paragraphs 12 and 34 support the limitation. App. Br. 28; *see* Reply Br. 6. We agree with Appellants.

The Specification references both the active and historical databases. Spec. ¶¶ 12, 34; *see* App. Br. 28; *see also* Reply Br. 6. Further, contrary to the Examiner’s findings, the Specification states that the database 126 shown

in Figure 1 can be *one or more databases*. Spec. ¶ 14. Accordingly, the limitation “the historical database being distinct from the active database” of claim 1 is fully supported in the Specification because the “*or more databases*” could include both a physical database for the active database and another physical database for the historical database. This would reasonably convey to those skilled in the art that the inventors were clearly in possession at the time of the invention. *See Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc) (“[T]he test for sufficiency 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.”).

*Indefiniteness*

Claim 25 recites, “replacing one or more of the search terms with terms that are more general.” App. Br. 49, Claims App’x. The Examiner finds that the term “more” in claim 25 renders the claim indefinite because it is not defined by the claim and the Specification does not provide a standard to ascertain the requisite degree. Final Act. 6. Appellants argue that “more general” refers to a comparison of generality between the terms in the search query and that a person of ordinary skill in the art would appreciate that in the field of searching some terms are more general than others. App. Br. 29; Reply Br. 6. We agree with Appellants.

The Specification states, “[g]eneralization can be accomplished by dropping over-constraining terms from the original query (e.g., transforming ‘blue colored ipod nano’ to ‘ipod nano’) or replacing terms in queries with *more general* terms (e.g., transforming ‘oak table’ to ‘wood table’) (emphasis added).” Spec. ¶ 41. As such, the Specification clearly sets forth

the meaning of the term “more general” sufficiently to inform those skilled in the art about the scope of the invention with reasonable clarity, thereby satisfying the definiteness requirement. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014) (“claims viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty”).

*Rejection III: Unpatentable over Levy and Whitman*

Claim 1 recites “[a] system comprising: . . . an active database . . . a historical database storing inactive e-commerce items previously available but not currently available for sale, the historical database being distinct from the active database; and a low-result search query module.” The Examiner finds that Levy teaches all of the limitations of claim 1 including a first search query to an active database. Final Act. 8–13. The Examiner relies on Whitman to modify the search query based on historical result data and perform a second query with the modified search. *Id.*

Appellants argue that the Examiner did not provide findings as to which database in Levy teaches the claimed active database. App. Br. 32; *see* Reply Br. 6. Appellants further argue the Examiner erred in relying on Levy’s historical data as the historical database because Levy’s historical data relates to past user actions and is not a database storing inactive items. App. Br. 33; *see* Reply Br. 6.

Appellants’ arguments are not persuasive. The Examiner finds that Levy’s client website database, which includes active items, is the claimed active database. Ans. 9; Final Act. 12; Levy ¶ 17. Further, the Examiner finds Levy’s historical data in the database tracks information including out

of stock items (the claimed historical database storing inactive e-commerce items). Ans. 9; Final Act. 12–13; Levy ¶ 602. Thus, Appellants have not addressed the Examiner’s specific findings and, therefore, have not apprised us of why the Examiner’s findings are in error.

Further, the Examiner finds Levy teaches a client performs a search and requests a specific number of items in return. Final Act. 9. The Examiner finds Levy teaches when the search returns a count less than the requested number of items (threshold), the recommendations data from the historical search can be used. Final Act. 9–10.

Appellants argue that the number of items requested is not a count of active items in the database, as claimed. App. Br. 33–35, 37; *see* Reply Br. 6–7. Further, Appellants argue Levy’s threshold is in relation to the recommendations, where the recommendations are not active items, and, thus, the threshold is not in relation to the threshold of active items in the database, as claimed. App. Br. 35–37; *see* Reply Br. 6–7.

Appellants’ arguments are not persuasive. Contrary to Appellants arguments, the Examiner relies on the number of items returned in response to the search request as the claimed count, not the number of items requested. Ans. 11. Further contrary to Appellants’ arguments, the Examiner relies on the number of items requested as the claimed predetermined threshold, not the recommendations threshold in Levy. Ans. 11. Appellants have not particularly addressed the Examiner’s specific findings. Thus, Appellants have not apprised us of why the Examiner’s findings are in error.

Additionally, the Examiner finds Levy teaches that when the search returns a count less than the requested number of items (threshold), the

recommendations data from the historical database can be used to broaden the search, such as using the top sellers for all historical data. Final Act. 9–10; Ans. 13. The Examiner finds Levy’s search being broadened to include the recommendations is a second query, but relies on Whitman to explicitly teach performing a second query with a modified search query. Final Act. 11–13; Ans. 13–14.

Additionally, the Examiner construes the limitation “historical result data” to be broader than “inactive e-commerce items previously available but not currently available for sale,” as supported by the Specification. Final Act. 7 (citing Spec. ¶ 36). “During examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification.” *In re Hyatt*, 211 F.3d 1367, 13725 (Fed. Cir. 2000); *see also Cuozzo Speed Tech., LLC v. Lee*, 136 S. Ct 2131, 2145 (2016). The Specification states, “[t]he historical database 330 stores historical data related to inactive (e.g., expired or sold) e-commerce items. The historical data can include information about previous searches, such as queries and their related search results and clickstream data. The historical data can include category tree information and meta-data.” Spec. ¶ 34; *see also id.* ¶ 36. The Examiner’s construction relies on the Specification for guidance as to the claim term, and, as such, we find that the Examiner’s broad interpretation in light of the Specification is reasonable.

Appellants argue identifying the top sellers historically, as taught by Levy, is different from a database query on the historical database storing inactive items, as claimed. App. Br. 37; *see* Reply Br. 7. Further, Appellants argue Levy’s search is broadened with similar or related items, and not based on historical data, as claimed. App. Br. 38; *see* Reply Br. 7.

As addressed above, the Examiner finds Levy's historical result data in the database tracks information including out of stock items (i.e., the claimed historical database storing inactive e-commerce items). Ans. 9; Final Act. 12–13; Levy ¶ 602. Both of the past sales data and the top seller historical data are found to be historic result data from the historical database. *See* Ans. 12–13. As such, we agree that the query to the historical database for information about past sales data and the top seller historical data would be a search query to the historical database returning historical result data, as claimed. Appellants have not addressed these findings with particularity and, thus, have not persuaded us of error in the Examiner's findings.

Further, while the Examiner finds Levy's broadening the search is a second query, the Examiner relies on Whitman to explicitly teach this limitation. Final Act. 11–12; Ans. 14. Appellants have not addressed the Examiner's findings as to the combination of Levy and Whitman.

As such, we sustain the Examiner's rejection of claim 1 over the combination of Levy and Whitman.

Claims 9 and 17 recite similar limitations to claim 1 and were argued together with claim 1. App. Br. 38; *see also id.* at 47–48, Claims App'x. Claims 2, 4, 5, 8, 10, 13, 16, 18, 20, 21, 24–27 depend from one of claims 1, 9, and 17. App. Br. 47–49, Claims App'x. Appellants do not present separate arguments for claims 2, 4, 5, 8–10, 13, 16–18, 20, 21, 24–27. App. Br. 30–38; Reply Br. 6–7. For all of the reasons stated above, we sustain the Examiner's rejection of claims 1, 2, 4, 5, 8–10, 13, 16–18, 20, 21, 24–27 under 35 U.S.C. § 103(a) as unpatentable over Levy and Whitman.

*Rejections IV and V: Unpatentable over Levy, Whitman, and Mukherjee or, alternatively, Levy, Whitman, and Petropoulos*

Claims 6, 14, and 22 depend from claims 1, 9, and 17 respectively. App. Br. 47–49, Claims App’x. Appellants do not present separate arguments for claims 6, 14, and 22. App. Br. 39; Reply Br. 7–8. We sustain the Examiner’s rejections of claims 6, 14, and 22 under 35 U.S.C. § 103(a) as unpatentable over Levy, Whitman, and Mukherjee, or alternatively over Levy, Whitman, and Petropoulos, for the same reasons as set forth above for claim 1.

#### DECISION

The Examiner’s rejection of claims 1, 2, 4–6, 8–10, 12–14, 16–18, 20–22, and 24–27 under 35 U.S.C. § 101 as patent-ineligible subject matter is affirmed.

The Examiner’s rejection of claims 1, 2, 4–6, 8–10, 12–14, 16–18, 20–22, and 24–27 under 35 U.S.C. § 112 is reversed.

The Examiner’s rejection of claims 1, 2, 4, 5, 8–10, 13, 16–18, 20, 21, and 24–27 under 35 U.S.C. § 103(a) as unpatentable over Levy and Whitman is affirmed.

The Examiner’s rejection of claims 6, 14, and 22 under 35 U.S.C. § 103(a) as unpatentable over Levy, Whitman, and Mukherjee is affirmed.

The Examiner’s rejection of claims 6, 14, and 22 under 35 U.S.C. § 103(a) as unpatentable over Levy, Whitman, and Petropoulos is affirmed.

Appeal 2017-011495  
Application 13/624,712

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