UNITED STATES PATENT AND TRADEMARK OFFICE

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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 LARRY HECK, DILEK HAKKANI-TUR, and
GOKHAN TUR

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Appeal 2018-000352
Application 13/769,679
Technology Center 2600

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Before JOSEPH L. DIXON, LINZY T. McCARTNEY, and
NORMAN H. BEAMER, *Administrative Patent Judges.*

McCARTNEY, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellants seek review under 35 U.S.C. § 134 of the Examiner's final
rejection of claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

BACKGROUND

The present patent application concerns an unsupervised training approach for Spoken Language Understanding systems. *See* Specification ¶ 3, Abstract, filed March 22, 2013 ("Spec."). Claims 1, 10, and 17 are independent. Claim 1 illustrates the claimed subject matter:

> 1.   A method for extracting natural language examples for natural language processing, comprising:
>
> accessing, by a computer network, structured content that includes a first entity in a defined relationship with a second entity;
>
> identifying the defined relationship between the first entity and the second entity;
>
> automatically performing a search query using the first entity, the second entity, and the defined relationship;
>
> obtaining results from the search query, wherein the results include natural language surface forms;
>
> parsing the natural language surface forms to obtain a pattern, wherein parsing the natural language includes:
>
> > determining natural language patterns that are used to relate the first entity and the second entity;
> >
> > analyzing the natural language patterns to identify dependencies
> >
> > extracting the dependencies; and
>
> updating a natural language system with the obtained pattern such that the natural language system includes a new relationship based on the dependencies for at least one of the first entity and the second entity based on the obtained pattern.

Appeal Brief 20, filed January 25, 2017 ("App. Br.").[1]

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[1] The Appeal Brief lacks page numbers. We treat the Appeal Brief as if it were numbered starting with the page containing the "Real Party in Interest" heading.

REJECTION[2]

Claims	Basis
Claims 1–20	§ 101
Claim 10	§ 101

DISCUSSION

We have reviewed the Examiner's rejections and Appellants' arguments, and we disagree with Appellants that the Examiner erred. As consistent with the discussion below, we adopt the Examiner's findings, conclusions, and reasoning in the Final Office Action mailed May 26, 2016 ("Final Act.") and the Answer mailed May 9, 2017 ("Ans.").

Claims 1–20

Section 101 of the Patent Act provides that "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof" is patent eligible. 35 U.S.C. § 101. But the Supreme Court has long recognized an implicit exception to this section: "Laws of nature, natural phenomena, and abstract ideas are not patentable." *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014) (quoting *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013)). To determine whether a claim falls within one of these excluded categories, the Court has set out a two-part framework. The framework requires us first to consider whether the claim is "directed to one of those patent-ineligible concepts." *Alice*, 573 U.S. at 217. If so, we then examine "the elements of [the] claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a

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[2] The Examiner withdrew the rejections of claims 1–20 under 35 U.S.C. § 103. Answer 2–3, mailed May 9, 2017.

patent-eligible application." *Alice*, 573 U.S. at 217 (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 78, 79 (2012)). That is, we examine the claim for an "inventive concept," "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.'" *Alice*, 573 U.S. at 217–18 (alteration in original) (quoting *Mayo*, 566 U.S. at 72–73).

The Patent Office recently issued guidance about this framework. *See* 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) ("2019 Eligibility Guidance"). Under the guidance, to decide whether a claim is directed to an abstract idea, we evaluate whether the claim (1) recites an abstract idea listed in the guidance *and* (2) fails to integrate the recited abstract idea into a practical application. *See* 2019 Eligibility Guidance 84 Fed. Reg. at 51. If the claim is directed to an abstract idea, as noted above, we then determine whether the claim has an inventive concept. The guidance explains that when making this determination, we should consider whether the additional claim elements add "a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field" or "simply append[] well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality." 2019 Eligibility Guidance 84 Fed. Reg. at 56.

With these principles in mind, we turn to the Examiner's § 101 rejection.

Abstract Idea

The Examiner determined that claim 1 is directed to a "mental process," one of the abstract idea groups listed in the 2019 Eligibility

Guidance. *See* Final Act. 4–5 (determining that the limitations recited in claim 1 encompass acts people can perform in their minds or using pen and paper); Ans. 6 (explaining that the recited steps "may be done by a human without the aid of a machine" and citing cases involving mental processes); 2019 Eligibility Guidance 84 Fed. Reg. at 52 (listing "Mental processes— concepts performed in the human mind (including an observation, evaluation, judgment, opinion)" as one of the enumerated groupings of abstract ideas (footnote omitted)). For the reasons explained below, we see no error in this determination.

A claim recites a mental process when the claim encompasses acts people can perform using their minds or pen and paper. *See, e.g.*, *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372–73 (Fed. Cir. 2011) (determining that a claim whose "steps can be performed in the human mind, or by a human using a pen and paper" is directed to an unpatentable mental process). This is true even if the claim recites that a generic computer component performs the acts. *See, e.g.*, *Versata Dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1335 (Fed. Cir. 2015) ("Courts have examined claims that required the use of a computer and still found that the underlying, patent-ineligible invention could be performed via pen and paper or in a person's mind."); *see also* 2019 Eligibility Guidance 84 Fed. Reg. at 52 n.14 ("If a claim, under its broadest reasonable interpretation, covers performance in the mind but for the recitation of generic computer components, then it is still in the mental processes category unless the claim cannot practically be performed in the mind.").

Here, most of the limitations recited in claim 1 encompass an act people can perform using their minds or pen and paper. As determined by the Examiner, people can perform the "accessing" and "identifying" steps by

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simply looking at the recited structured content and recognizing a defined relationship between first and second entities. *See* Final Act. 4. People can perform the "obtaining" and "parsing" steps (including the recited "determining," "analyzing," and "extracting") by looking at the recited results, identifying the recited natural language patterns and dependencies, and writing down or remembering the dependencies and the obtained pattern. *See* Final Act. 4–5. Finally, as determined by the Examiner, people can perform the "updating" step by writing the recited new relationship on a piece of paper. *See* Final Act. 5.

Despite the Examiner determining that these steps encompass acts that people can perform using their minds or pen and paper, Appellants have not explicitly challenged this determination. *Compare* Final Act. 4–5, *and* Ans. 6, *with* App. Br. 4–9, *and* Reply Brief 2–10, mailed July 10, 2017 ("Reply Br."). Appellants have thus forfeited the argument that these steps do not encompass acts that people can perform using their minds or pen and paper. *See* 37 C.F.R. 41.37(c)(1)(iv) (explaining that with some exceptions "arguments or authorities not included in the appeal brief will be refused consideration by the Board for purposes of the present appeal."); 37 C.F.R. § 41.52 (explaining that with some exceptions "[a]rguments not raised, and [e]vidence not previously relied upon . . . are not permitted in the request for rehearing"). We thus see no reason to disturb this aspect of the Examiner's rejection.

The additional elements recited in claim 1 do not integrate this mental process into a practical application. Along with the steps discussed above, claim 1 recites "a computer network" and "automatically performing a search query using the first entity, the second entity, and the defined relationship." App. Br. 20. The written description indicates that the recited

computer network encompasses generic computer components that perform generic functions. *See, e.g.,* Spec. ¶ 71 (explaining that "[t]he embodiments and functionalities described herein may" use "a distributed computing network, such as the Internet or an intranet"). Simply reciting a generic computer component that performs in a generic manner does not integrate an abstract idea into a practical application. *See, e.g., Alice,* 573 U.S. at 223 ("[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention."); *see also* 2019 Eligibility Guidance 84 Fed. Reg. at 55 (identifying "merely us[ing] a computer as a tool to perform an abstract idea" as an example of when an abstract idea has not been integrated into a practical application).

As for the "automatically performing a search query" step, this step simply gathers data for other method steps and is thus insignificant extra-solution activity. *See, e.g., CyberSource,* 654 F.3d at 1370 ("We have held that mere '[data-gathering] step[s] cannot make an otherwise nonstatutory claim statutory.'" (alterations in original) (quoting *In re Grams,* 888 F.2d 835, 840 (Fed. Cir. 1989))); *see also* 2019 Eligibility Guidance 84 Fed. Reg. at 55 (identifying "add[ing] insignificant extra-solution activity to the" abstract idea as an example of when an abstract idea has not been integrated into a practical application).

Appellants' arguments have not convinced us otherwise. First, Appellants contend the Examiner failed to show that claim 1 is directed to extracting natural language, using correlations, and organizing human activities. *See* App. Br. 6–7; Reply Br. 2–6. Even if we were to agree that claim 1 is not directed to extracting natural language, using correlations, or organizing human activities, as explained above, the Examiner also determined that claim 1 is directed to a mental process. *See* Final Act. 4–5;

Ans. 6. Appellants have not persuasively challenged this determination. *See* App. Br. 4–9; Reply Br. 2–10.

Second, Appellants argue that claim 1 "includes significant limitations that limit the application of the claimed method to" a particular "technical realm." App. Br. 6; *see also id.* at 8 (arguing that "claim 1 has a significantly more narrow and tailored scope within updating a natural language understanding system"); Reply Br. 8 (arguing that claim 1 is within "the environment of improving natural language systems"). Even assuming that claim 1 is limited to a particular realm or environment, this fact does not show that the claim is directed to patent-eligible subject matter. "An abstract idea does not become nonabstract by limiting the invention to a particular field of use or technological environment." *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1366 (Fed. Cir. 2015). *See* 2019 Eligibility Guidance 84 Fed. Reg. at 55 (identifying "link[ing] the use of a judicial exception to a particular technological environment or field of use" as an example of when an abstract idea has not been integrated into a practical application).

Third, Appellants assert that claim 1 improves computer technology because the recited method "may be used to automate the formation of training data to improve a natural language system." Reply Br. 8 (citing Spec. ¶¶ 3, 24); *see also id.* (asserting that the claimed method "facilitates the automation of providing training data to natural language systems"). But claim 1 does not recite this improvement. Except for the "automatically performing a search query" step, the steps recited in claim 1 do not require automatic performance. *See* App. Br. 20. Appellants have not explained— nor is it readily apparent from claim 1 or the written description—how automatically performing the recited search query alone results in

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automatically identifying training data for a natural language system. *See Versata Dev. Grp., Inc. v. SAP Am., Inc.*, 793 F.3d 1306, 1335 (Fed. Cir. 2015) (determining that claims are not directed to improving computer performance when the "supposed benefits are not recited in the claims at issue").

In any event, to the extent that Appellants rely on steps that form part of the identified mental process to show the claim provides a technological improvement, these steps are not "additional elements" that "'transform the nature of the claim' into a patent-eligible application." *Alice*, 573 U.S. at 217 (quoting *Mayo*, 566 U.S. at 78); *see also* 2019 Eligibility Guidance 84 Fed. Reg. at 55 n.24 ("USPTO guidance uses the term 'additional elements' to refer to claim features, limitations, and/or steps that are recited in the claim *beyond the identified judicial exception.*" (emphasis added)).

For the above reasons, we agree with the Examiner that claim 1 is directed to a mental process.

Inventive Concept

Because we agree with the Examiner that claim 1 is directed to an abstract idea, we next consider whether claim 1 recites an inventive concept. The Examiner found that claim 1 does not recite an inventive concept because the additional elements recited in the claim consist of "generic computer components that operate in a well-understood, routine, and conventional fashion previously known to the pertinent industry." Ans. 3.

We agree. As discussed above, the additional elements recited in claim 1 include "a computer network" and the "automatically performing a search query" step. The written description makes clear that the recited "computer network" encompasses generic computer components that perform well-understood, routine, and conventional activity. *See, e.g.*, Spec.

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¶ 71 (explaining that "[t]he embodiments and functionalities described herein may" use "a distributed computing network, such as the Internet or an intranet"). Similarly, the written description indicates that the "automatically performing a search query" step encompasses well-understood, routine, and conventional activity such as using a well-known web search engine to perform a search. *See* Spec. ¶ 36 ("According to an embodiment, web queries that are formed are executed by a web search engine (e.g. BING, GOOGLE, and the like)."); *see also* App. Br. 2 (mapping the "automatically performing a search query" step to paragraph 36 of the written description). Because these additional claim elements "simply append[] conventional steps, specified at a high level of generality, to" an abstract idea, these elements—considered alone or in combination—do not make the abstract idea patent eligible. *Mayo*, 566 U.S. at 82. *See* 2019 Eligibility Guidance 84 Fed. Reg. at 56 (explaining that "simply append[ing] well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality" indicates "that an inventive concept may not be present").

Appellants contend otherwise. According to Appellants, claim 1 has an inventive concept because the claim recites "non-conventional and non-generic steps" (both the steps themselves and how they are arranged) and does not preempt all uses of the identified abstract idea. Reply Br. 7–8; App. Br. 9. Appellants also contend the claim does not recite well-understood, routine, conventional activities. Reply Br. 6–7; App. Br. 9.

Appellants have not persuaded us the Examiner erred. First, Appellants do not provide persuasive evidence or reasoning to support the assertion that claim 1 recites unconventional steps (or an unconventional arrangement of steps). Appellants simply summarize the claim language and

assert that the claim "provides for a novel way of updating a natural language system" and does not involve "generic computer functions that are well-understood, routine and conventional activities." Reply Br. 7; *see also* App. Br. 9. These conclusory assertions do not establish the Examiner erred.

As for Appellants' contention that claim 1 does not raise preemption concerns, even if claim 1 does not preempt all methods for performing the abstract idea, this fact alone does not show the claims have an inventive concept. As the Federal Circuit has repeatedly explained, failing to preempt all of a particular field does not make a claim less abstract. *See, e.g., OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015) ("And that the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract."); *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015) ("While preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility.").

We thus agree with the Examiner that claim 1 does not contain an inventive concept.

Conclusion

For at least the above reasons, we agree with the Examiner that claim 1 is directed to an abstract idea and does not include an inventive concept. Accordingly, we sustain the Examiner's rejection of claim 1 under § 101. Because Appellants have not presented separate, persuasive arguments for claims 2–20, we also sustain the Examiner's rejection of these claims under § 101.

Claim 10

The Examiner also rejected claim 10 under § 101 because the claim recites "[a] computer-readable medium" that encompasses nonstatutory signals. *See* Final Act. 5–6. Appellants have not challenged this rejection on appeal. *See* App. Br. 10. As a result, we summarily sustain this rejection. [3]

DECISION

Claims Rejected	Basis	Affirmed	Reversed
Claims 1–20	§ 101	1–20	
Claim 10	§ 101	10	
Summary		1–20	

No period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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[3] We note that the written description supports the Examiner's rejection. *See, e.g.*, Spec. ¶ 81 ("The term computer readable media as used herein may also include communication media. Communication media may be embodied by computer readable instructions, data structures, program modules, or *other data in a modulated data signal, such as a carrier wave or other transport mechanism*, and includes any information delivery media." (emphasis added)).