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Shutts & Bowen LLP
STEVEN M. GREENBERG
525 Okeechobee Blvd
1100
West Palm Beach, FL 33401

EXAMINER
BEHNCKE, CHRISTINE M

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOACHIM H. FRANK and JAMES E. RUMBAUGH[1]

Appeal 2018-006763
Application 11/618,182
Technology Center 3600

Before ANTON W. FETTING, BIBHU R. MOHANTY,
MEREDITH C. PETRAVICK, *Administrative Patent Judges*.

PETRAVICK, *Administrative Patent Judge*.

DECISION ON APPEAL[2]

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[1] The real party in interest is International Business Machines Corporation. App. Br. 2.

[2] Our decision will make reference to the Appeal Brief ("App. Br.," filed Dec. 12, 2017), the Reply Brief ("Reply Br." filed June 19, 2018), the Final Office Action ("Final Act.," mailed July 12, 2017), and the Examiner's Answer ("Ans.," mailed Apr. 19, 2018).

STATEMENT OF THE CASE

Appellant seeks our review under 35 U.S.C. § 134(a) of the final rejection of claims 1–9.

This Application was previously before us in Appeal No. 2012-007229, in which we entered a Decision affirming the rejection of claims 1–9 under 35 U.S.C. § 103(a) over prior art.

We have jurisdiction under 35 U.S.C. § 6(b).

SUMMARY OF DECISION

We AFFIRM.

THE INVENTION

The "invention relates to the field of business process management and more particularly to managing interrupting events in a process flow for a business process." Spec. ¶ 1. The Specification describes interrupts as "unsolicited, spontaneous interactions." *Id.* ¶ 3. The Specification describes interrupts in real-word business processes and states:

> In a real-world process external to the computer model of a real-world business process, the process can be disrupted without warning in an unpredictable fashion. The effect of the disruption depends on the current state of execution of the process, which may involve one or more (concurrent) tasks. For each of the tasks that are executing when the interrupt occurs, the effect can be that its result is discarded ("displaced" by the interrupt) or used (interrupt is "additive"). In addition, any additional flow caused by the interrupt can be immediate, or deferred (awaiting task completion).

Id. ¶ 7.

The Specification explains that known "process modeling techniques permit modeling of an interruption to a process flow," but that in the known process modeling techniques, "upon receiving notification of an interruption, the currently executing task can terminate and become abandoned" and "[t]hereafter, a different task can commence rather than a task naturally following the terminated task in the flow. This is the case of an 'immediate and displacing' interrupt." *Id.* ¶ 8.

The invention improves upon these known process modeling techniques by allowing for other ways to handle an interrupt:

> "immediate and additive" (an interrupt flow occurs immediately, but the interrupted task still completes and its subsequent flow still occurs as it normally would); "deferred and displacing" (the interrupted task is allowed to complete, but the subsequent course of action is a *different* flow, which may use the task's result) and "deferred and additive" (the interrupted task is allowed to complete, but the subsequent course of action now has an *additional* flow, which may use the task's result[)].

Id.; *see also id.* ¶¶ 9–10, 16.

THE CLAIM

Claim 1, reproduced below, is illustrative of the claimed subject matter on appeal.

> 1. A method for handling interrupts in a business process, the method comprising:
>
> operating in memory of a host computing platform a business process engine arranged to launch business process flows based upon one or more business process definitions by consulting service directory to identify and retrieve service instances hosted in remote hosts over the computer communications network;

> executing a task in a business process flow by the business process engine;
>
> determining whether or not the business process flow has been interrupted by an interrupt; and,
>
> on condition that the business process flow has not been interrupted, determining whether or not the process flow has been previously displaced by an interrupt and if not retrieving for execution and executing a next task in the business process flow, but on condition that the business process flow has been interrupted, classifying the interrupt in the business process engine as either as immediate or deferred, determining timing requirements for the interrupt and, launching in the business process engine an interrupt flow of one or more tasks leaving the particular node immediately in response to the interrupt being classified as immediate, but otherwise launching the interrupt flow only after the task of the interrupt has completed.

THE REJECTION

The Examiner rejected claims 1–9 under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

ANALYSIS

An invention is patent-eligible if it is a "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court's two-step framework, described in *Mayo*

and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is "directed to." *See Alice*, 573 U.S. at 219 ("On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.,* the use of a third party to mitigate settlement risk."); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) ("Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk.").

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as "molding rubber products" (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); "tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores" (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that "[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula." *Diehr*, 450 U.S. at 176; *see also id.* at 191 ("We view respondents' claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula."). Having said that, the Supreme Court also indicated that a claim "seeking patent

protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment." *Id.* (citing *Benson* and *Flook*); *see, e.g.*, *id*. at 187 ("It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.").

If the claim is "directed to" an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where "we must examine the elements of the claim to determine whether it contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Alice*, 573 U.S. at 221 (citation omitted). "A claim that recites an abstract idea must include 'additional features' to ensure 'that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].'" *Id.* (quoting *Mayo*, 566 U.S. at 77). "[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention." *Id.*

The PTO recently published revised guidance on the application of § 101. *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) ("2019 Revised Guidance"). Under the Guidance, we first look to whether the claim recites:

> (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity 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)).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to 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.

See 2019 Revised Guidance.

Appellant argued claims 1–9 as a group. *See* App. Br. 4–15. In accord with Appellant's discussion, we select claim 1 as the representative claim for this group, and the remaining claims 2–9 stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

The Examiner rejected claim 1 under 35 U.S.C. § 101 because claim 1 is directed to an abstract idea and does not recite additional elements that amount to significantly more than the judicial exception itself. Final Act. 3–6. For the reasons discussed below, we are not persuaded that the Examiner erred.

Judicial Exception

Viewing the Examiner's rejection in light of the 2019 Revised Guidance, we first determine whether the claims recites a judicial exception,

such as an abstract idea, and then determine whether claim 1, considered as a whole, is directed to that exception.

The Examiner determined that claim 1 recites the abstract idea of handling interrupt in a business process. Final Act. 4. We agree.

Claim 1 recites a "method for handling interrupts in a business process" that specifies how interrupts in a business process are handled. Specifically, claim 1 recites:

> [1] on condition that the business process flow has not been interrupted, determining whether or not the process flow has been previously displaced by an interrupt and if not retrieving for execution and executing a next task in the business process flow, but [2] on condition that the business process flow has been interrupted, classifying the interrupt in the business process engine as either as immediate or deferred, determining timing requirements for the interrupt and, [3] launching in the business process engine an interrupt flow of one or more tasks leaving the particular node immediately in response to the interrupt being classified as immediate, but [4] otherwise launching the interrupt flow only after the task of the interrupt has completed.

Element 1 recites how the business process is handled if there is not interrupt (i.e., continuing with the next task in the business process flow). *See* Spec. ¶ 24. Elements 2–4 recites how the business process is handled if there is an interrupt. *See id.* ¶ 25. Element 2 determines whether the interrupt is the type that will be handled immediately or deferred to after the completion of the business process task. *Id.* Element 3 recites how the business process is handled if the interrupt is immediate—by launching an interrupt flow immediately. *Id.* Element 4 recites how the business process is handled if the interrupt is deferred—by waiting until the task of the interrupt is complete before launching the interrupt flow. *Id.* Handling an interrupt to a business process according to these elements is a method that organizes

business relations (i.e., a method of organizing human activity). Such methods of organizing business relations is an abstract idea. *See* 2019 Revised Guidance, 84 Fed. Reg. at 52 (explaining that the certain methods of organizing human activity abstract idea grouping includes business relations).

Courts have found similar method of organizing business relations to be abstract ideas. *See In re Ferguson*, 558 F.3d 1359, 1364 (Fed. Cir. 2009) (holding methods "directed to organizing business or legal relationship in the structuring of a sales force (or marketing company)" to be ineligible); *Accenture Global Servs. v. Guidewire Software, Inc.*, 728 F.3d 1336, 1338–39 (Fed. Cir. 2013) (concepts of generating tasks for processing insurance claims were determined to be an abstract idea); *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1054 (Fed. Cir. 2017) (a method of loan processing was deemed to be an abstract idea); *see also Ex parte Savescu*, No. 2018-003174, 2019 WL 4297781 (PTAB July 1, 2019) (informative) (determining that claims reciting a method of creating a life-cycle workflow for a project to be ineligible).

Pointing to the elements reproduced above, Appellant argues claim 1 recites eligible subject matter because these elements recite "a particular solution to the problem of interrupt handling in a business process so as to achieve a desired outcome defined by the claim invention." App. Br. 9. Appellant argues that because the claims recite how the interrupt is handled the claims are not directed to an abstract idea. *Id.* at 12–15 (citing *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343 (Fed. Cir. 2015)).

Although the elements of claim 1 reproduced above, add a degree of particularity to the method of handling interrupts in a business process, it

does not make the method any less abstract. *See Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240–41 (Fed. Cir. 2016) (an abstract idea can generally be described at different levels of abstraction). In *Ultramerical*, the Federal Circuit found that "eleven steps for displaying an advertisement in exchange for access to copyrighted media" was directed to an abstract idea, despite the claim at issue reciting "certain additional limitations . . . [that] add a degree of particularity." *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 714–15 (Fed. Cir. 2014). The Federal Circuit stated "the concept embodied by the majority of the limitations describes only the abstract idea of showing an advertisement before delivering free content," and the addition of novel or non-routine components did not "necessarily turn[] an abstraction into something concrete." *Id.* at 715. Like in *Ultramercial*, that the claims set out particular elements for handling the interrupts in a business process does not make the claimed method any less abstract.

A method of handling an interrupt in a business process is a method of organizing human activity, in particular business relations, which an abstract idea. *See* 2019 Revised Guidance, 52.

Additional Elements that
Integrate the Judicial Exception into a Practical Application

Claim 1, considered as a whole, does not integrate the judicial exception into a practical application. The term "additional elements" to refer to features, limitations, or steps that the claim recites beyond the abstract idea itself. 2019 Revised Guidance, 55 n.24.

In addition to the abstract idea, claim 1 recites:

> operating in memory of a host computing platform a business process engine arranged to launch business process flows based upon one or more business process definitions by consulting service directory to identify and retrieve service instances hosted in remote hosts over the computer communications network;
>
> executing a task in a business process flow by the business process engine; [and]
>
> determining whether or not the business process flow has been interrupted by an interrupt.

Considering the claim as a whole, these additional limitations merely add generic computer activity, which is insufficient to integrate the abstract idea into a practical application. *See* 2019 Revised Guidance, 55. Nor does claim 1 recite any other elements that integrate the abstract idea into a practical application in any other meaningful way. *Id.*

Appellant argues that because claim 1 recites an improvement to a known technical problem in a technical field because claim 1 recites "a particular solution to the problem of interrupt handling in a business process so as to achieve a desired outcome defined by the claim invention" (App. Br. 9); Reply Br. 4–5 (citing App. Br. 9). Appellant relies upon *Internet Patents* to show that claim 1 is patent eligible. *See* App. Br. 12–15.

Contrary to Appellant's argument, however, claim 1's method of handling interrupts in a business process is an improvement to a business process and not to computer functionality or a technical field. There is a fundamental difference between computer functionality improvements, on the one hand, and uses of existing computers as tools to perform a particular task, on the other. The Federal Circuit applied this distinction in *Enfish*, in rejecting a § 101 challenge at the step one stage in the *Alice* analysis because

the claims at issue focused on a specific type of data structure, i.e., the self-referential table, designed to improve the way a computer carries out its basic functions of storing and retrieving data, and not on asserted advances in uses to which existing computer capabilities could be put. *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016). In *Enfish*, the Court distinguished claims that improved computer functionality from claims, like those in *Internet Patents*, which are directed to an abstract idea because they "recited generalized steps to be performed on a computer using conventional computer activity." *Enfish*, 822 F.3d at 1338. In *Internet Patents*, the Court determined that claims for maintaining a computer state without recitation of specific activity used to generate a result were directed to an abstract idea. *Internet Patents*, 790 F.3d at 1348–49. Here, the method of claim 1 merely uses existing computers as tools to perform a particular task—handling interrupts in a business process. *See* Spec. ¶¶ 7–8 (discussing handling interrupts a business process by using existing computer as tools). Appellant's reliance on *Internet Patents* is, thus, misplaced.

Appellant also relies upon *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299 (Fed. Cir. 2016) to show that claim 1 is patent eligible. *See* App. Br. 6–7. The Federal Circuit premised its determination that the claims in *McRO* were patent-eligible, not merely on the specificity of the claimed animation scheme, but rather on the fact that the claims, when considered as a whole, were directed to a technological improvement over the existing, manual 3-D animation techniques and used limited rules in a process specifically designed to achieve an improved technological result in conventional industry practice. *See McRO*, 837 F.3d 1311–16. Again, here,

the method of claim 1 merely uses existing computers as tools to perform a particular task—handling interrupts in a business process. As our reviewing court has made clear, "relying on a computer to perform routine tasks more quickly or more accurately is insufficient to render a claim patent eligible." *OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015).

Claim 1 does not integrate the judicial exception, an abstract idea, into a practical application. *See* 2019 Revised Guidance, 55. Thus, claim 1 is directed to the recited abstract idea.

Well-Understood, Routine, Conventional

To determine whether claim 1 provides an inventive concept, we consider the additional elements, individually and in combination, to determine whether they (1) add a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" activity in the field or (2) simply append well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. 2019 Revised Guidance, 56.

The Examiner determined that claim 1's additional elements did not add significantly more to the abstract idea so as to make the claim patent eligible. *See* Final Act. 5–6.

Claim 1 fails to add specific elements beyond the judicial exception that is not well-understood, routine, and conventional in the field. Rather claim 1 adds well-understood, routine, and conventional activities previously known in the art at a high level of generality to the judicial exception. In addition to the abstract idea, claim 1 recites a business process engine — specifically, a business process engine "operating in memory of a host

computing platform," "arranged to launch business process flows based upon one or more business process definitions by consulting service directory to identify and retrieve service instances hosted in remote hosts over the computer communications network," and "executing a task in a business process flow." The Specification, itself, describes these aspects of claim 1 as well-understood, routine, and conventional. *See* Spec. ¶¶ 2–8 ("Description of the Related Art"); *see also id.* ¶ 28 (describing well-understood, routine, and conventional computer components). In particular, when describing the related art, the Specification states:

> Some process modeling techniques permit modeling of an interruption to a process flow. Generally, in the few modeling techniques that permit the modeling of an interruption, upon receiving notification of an interruption, the currently executing task can terminate and become abandoned. Thereafter, a different task can commence rather than a task naturally following the terminated task in the flow. This is the case of an "immediate and displacing" interrupt.

Id. ¶ 8. The Specification, thus, demonstrates that the additional elements simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the abstract idea. *See Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1368 (Fed. Cir. 2015) (holding that instructing one to apply an abstract idea while reciting no more than generic computer elements that perform generic computer tasks does not make the abstract idea patent-eligible) (citing *Alice*, 573 U.S. at 225); *Ultramercial*, 772 F.3d at 716 (holding that "each of those eleven steps merely instructs the practitioner to implement the abstract idea with 'routine, conventional activit[ies],' which is insufficient to

transform the patent-ineligible abstract idea into patent-eligible subject matter.”).

As a whole, claim 1 is directed to an abstract idea performed by a data processing engine used in its ordinary capacity performing well-understood, routine, and conventional activities. Claim 1 does not provide an inventive concept.

Conclusion

Accordingly, because representative claim 1, and claims 2–9 that stand or fall with claim 1, are directed to an abstract idea and do not present an “inventive concept,” we sustain the Examiner’s determination that they are directed to ineligible subject matter under 35 U.S.C. § 101. The rejection is sustained.

DECISION

We AFFIRM the rejection of claims 1–9 under 35 U.S.C. § 101 as being directed to non-statutory subject matter, but denominate our analysis as a new ground of rejection.

No time 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