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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MARIN LITOIU, KARL PIERRE WECKWORTH, and
ALEXEI LAPOUCHNIAN

Appeal 2018-004414
Application 12/023,708
Technology Center 3600

Before ANTON W. FETTING, JOSEPH A. FISCHETTI, and
PHILIP J. HOFFMANN, *Administrative Patent Judges*.

FETTING, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE¹

Marin Litoiu, Karl Pierre Weckworth, and Alexei Lapouchnian (Appellant²) seeks review under 35 U.S.C. § 134 of a non-final rejection of claims 1–7, 11–14, 18–22, 24, and 27–29, the only claims pending in the application on appeal. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).

The Appellant invented a way of business process adaptation using goal modeling and analysis. Specification para. 1.

An understanding of the invention can be derived from a reading of exemplary claim 21, which is reproduced below (bracketed matter and some paragraphing added).

21. A method comprising:

configuring a computer system including hardware to perform the following steps:

[1] eliciting a high-variability goal model (HVGM) for a business process,

wherein the HVGM captures and refines business process goals while modeling alternative options for attaining the business process goals,

and

wherein the HVGM captures quality attributes used in an evaluation of a performance of the business process and

¹ Our decision will make reference to the Appellant’s Appeal Brief (“App. Br.,” filed October 12, 2017) and Reply Brief (“Reply Br.,” filed March 23, 2018), and the Examiner’s Answer (“Ans.,” mailed January 24, 2018) and Non-Final Action (“Non-Final Act.,” mailed May 15, 2017).

² We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as International Business Machines Corporation (Appeal Br. 3).

an estimation of how various alternative options affect the quality attributes;

[2] generating a workflow-level high-variability executable model (HVEM) of the business process from the HVGM

by mapping the business process goals to control flow constructs based on annotations specified in the HVGM;

[3] deploying an instance of the HVEM;

[4] executing the business process using the instance of the HVEM;

[5] monitoring the execution of the business process via a business process monitoring infrastructure;

[6] receiving from stakeholders updated preferences with respect to the business process,

wherein the updated preferences change priorities or other parameters with respect to the quality attributes;

[7] selecting a process alternative among the alternative options,

wherein selecting the process alternative comprises

analyzing results of the monitoring and the updated preferences

and

planning reconfiguration changes with respect to the instance of the HVEM via a manager module within an autonomic element;

and

[8] reconfiguring the instance of the HVEM based on the selected process alternative,

wherein reconfiguring the instance of the HVEM comprises executing the reconfiguration changes via the manager module.

The Examiner relies upon the following prior art:

Name	Reference	Date
Bonabeau	US 2001/0053991 A1	Dec. 20, 2001
Hintermeister	US 2006/0085790 A1	Apr. 20, 2006

Talekar, Model, publish, and review: *Integrating WebSphere Business Modeler 6.0.1 and WebSphere Business Modeler Publishing Server 6.0.1*, Oct. 18, 2006

Claims 1–7, 11–14, 18–22, 24, and 27–29 stand rejected under 35 U.S.C. § 101 as directed to a judicial exception without significantly more.

Claims 1–7, 11, 12, 18–22, 24, and 27–29 stand rejected under 35 U.S.C. § 102(b) as anticipated by Bonabeau.

Claim 13 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Bonabeau and Hintermeister.

Claim 14 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Bonabeau and Talekar.

ISSUES

The issues of eligible subject matter turn primarily on whether the claims recite more than abstract conceptual advice of results desired.

The issues of novelty and obviousness matter turn primarily on whether Bonabeau describes the recited autonomic element.

FACTS PERTINENT TO THE ISSUES

The following enumerated Findings of Fact (FF) are believed to be supported by a preponderance of the evidence.

Facts Related to Claim Construction

01. The disclosure contains no lexicographic definition of “autonomic element.”
02. The ordinary meaning of “autonomic,” outside a physiological context, is resulting from internal stimuli; spontaneous.³

Facts Related to Appellant’s Disclosure

03. The Specification describes an autonomic element as follows.

FIG. 5 illustrates an autonomic element 500 that can be used in configuring and monitoring the models. In an autonomic computing system as in the present embodiments, an Autonomic Manager (AM) 502 controls its Managed Element (ME) 504 by configuring (514) it, monitoring (516) its performance, deliberating about the needed changes in the ME and executing the changes (using modules 507, 508, and 509 that analyze, plan and execute respectively). Collectively the AM 502 and the ME 504 are called the Autonomic Element 500. The decisions made by an AM 502 are based on the knowledge about the ME 504 and its environment. This knowledge is usually made available to the AM 502 in the form of various models. As shown in FIG. 5, the AM 502 manages the deployed high-variability business processes and their knowledge is provided by the enriched high-variability goal models 510. In one particular embodiment, an external infrastructure (such as the WebSphere Business Monitor) or monitor 506 is used to monitor the deployed processes. The analysis of the

³ The American Heritage Dictionary.
<https://www.ahdictionary.com/word/search.html?q=autonomic>

monitoring results 516 for a BP as well as the updated stakeholder preferences 512 may result in the change in the process configuration 514. The adaptation of the ME 504 is done by providing it with the new configuration.

Spec. para. 33.

Facts Related to the Prior Art

Bonabeau

04. Bonabeau is directed to generating new business models in an environment, or ecosystem, of existing business models and customers. Bonabeau para. 2.

ANALYSIS

Initially we construe the limitation autonomic element. This is not lexicographically defined. The ordinary meaning of “autonomic” is the attribute of resulting from internal stimuli; spontaneous. FF 01 and 02. Collectively an Autonomic Manager (AM) and its Managed Element (ME) are called the Autonomic Element. An Autonomic Manager (AM) controls its Managed Element (ME) by configuring it, monitoring its performance, deliberating about the needed changes in the ME and executing the changes. FF 03. Thus, an autonomic element is some software or hardware element that controls a managed element by configuring, monitoring performance of, and deliberating and executing needed changes of a managed element. The Specification does not narrow the structure or manner of implementation for these functions.

Claims 1–7, 11–14, 18–22, 24, and 27–29 rejected under 35 U.S.C. § 101 as directed to a judicial exception without significantly more

STEP 1⁴

Claim 21, as a method claim, nominally recites one of the enumerated categories of eligible subject matter in 35 U.S.C. § 101. The issue before us is whether it is directed to a judicial exception without significantly more.

STEP 2

The Supreme Court

set forth a framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts. First, . . . determine whether the claims at issue are directed to one of those patent-ineligible concepts. If so, we then ask, “[w]hat else is there in the claims before us? To answer that question, . . . consider the elements of each claim both individually and “as an ordered combination” to determine whether the additional elements “transform the nature of the claim” into a patent-eligible application. [The Court] described step two of this analysis as a search for an “inventive concept”—i.e., an element or combination of elements that is “sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.”

Alice Corp., Pty. Ltd. v. CLS Bank Intl, 573 U.S. 208, 217–18 (2014) (citations omitted) (*citing Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012)). To perform this test, we must first determine what the claims are directed to. This begins by determining whether the claims recite one of the judicial exceptions (a law of nature, a natural phenomenon, or an abstract idea). Then, if claims recite a judicial

⁴ For continuity of analysis, we adopt the steps nomenclature from 2019 Revised Patent Subject Matter Eligibility Guidance, 84 FR 50 (Jan. 7, 2019) (“Revised Guidance”).

exception, determining whether the claims at issue are directed to the recited judicial exception, or whether the recited judicial exception is integrated into a practical application of that exception, i.e., that the claims “apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception.” Revised Guidance at 54. If the claims are directed to a judicial exception, then finally determining whether the claims provide an inventive concept because the additional elements recited in the claims provide significantly more than the recited judicial exception.

STEP 2A Prong 1

At a high level, and for our preliminary analysis, we note that method claim 21 recites eliciting a model, generating and deploying an instance of a model, executing and monitoring a business process using the model, receiving preference data, selecting a process alternative, and reconfiguring the instance of the model. Eliciting a model is receiving data describing the model. Generating and deploying a model is updating and transmitting data describing the model. Executing and monitoring a business process on a computer is generic computer processing. Selecting an alternative is data reception. Reconfiguring a model is updating model data. Thus, claim 21 recites receiving, updating, transmitting, and processing data. None of the limitations recite technological implementation details for any of these steps, but instead recite only results desired by any and all possible means.

From this we see that claim 21 does not recite the judicial exceptions of either natural phenomena or laws of nature.

Under Supreme Court precedent, claims directed purely to an abstract idea are patent in-eligible. As set forth in the Revised Guidance, which extracts and synthesizes key concepts identified by the courts, abstract ideas include (1) mathematical concepts⁵, (2) certain methods of organizing human activity⁶, and (3) mental processes⁷. Among those certain methods of organizing human activity listed in the Revised Guidance are commercial or legal interactions. Like those concepts, claim 21 recites the concept of business processes. Specifically, claim 21 recites operations that would ordinarily take place in advising one to reconfigure a model with selected stakeholders options after executing a generic process based on the model as developed from received and generated data. The advice to reconfigure a model with selected stakeholders options after executing a generic process based on the model as developed from received and generated data involves performing a business process, which is a commercial act, and updating the process, which is an act ordinarily performed in the stream of commerce. For example, claim 21 recites “executing the business process,” which is an activity that would take place whenever one is in commerce. Similarly,

⁵ See, e.g., *Gottschalk v. Benson*, 409 U.S. 63, 71–72 (1972); *Bilski v. Kappos*, 561 U.S. 593, 611 (2010); *Mackay Radio & Telegraph Co. v. Radio Corp. of Am.*, 306 U.S. 86, 94 (1939); *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1163 (Fed. Cir. 2018).

⁶ See, e.g., *Bilski*, 561 U.S. at 628; *Alice*, 573 U.S. at 219-20; *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed Cir. 2014); *Smart Sys. Innovations, LLC v. Chicago Transit Auth.*, 873 F.3d 1364, 1383 (Fed. Cir. 2017); *In re Marco Guldenaar Holding B.V.*, 911 F.3d 1157, 1160–61 (Fed. Cir. 2018).

⁷ See, e.g., *Benson*, 409 U.S. at 67; *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1371–72 (Fed. Cir. 2011); *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1318 (Fed. Cir. 2016).

claim 1 recites “selecting a process alternative,” which is also characteristic of adapting in commerce.

The Examiner determines the claims to be directed to business process adaptation. Non-Final Act. 16.

The preamble to claim 21 does not recite what it is to achieve, but the steps in claim 21 result in running some generic business process and reconfiguring a model absent any technological mechanism other than a conventional computer for doing so.

As to the specific limitations, limitations 1, 5, and 6 recite data reception. Limitations 2–4, 7, and 8 recite insignificant receiving, updating, transmitting, and processing of model data, which advise one to apply generic functions to get to these results. The limitations thus recite advice for reconfiguring a model with selected stakeholders options after executing a generic process based on the model as developed from received and generated data. To advocate reconfiguring a model with selected stakeholders options after executing a generic process based on the model as developed from received and generated data is conceptual advice for results desired and not technological operations.

The Specification at paragraph 1 describes the invention as relating to business process adaptation using goal modeling and analysis. Thus, all this intrinsic evidence shows that claim 21 is directed to modelling and executing business processes, i.e., to business processes. This is consistent with the Examiner’s determination.

This in turn is an example of commercial or legal interactions as a certain method of organizing human activity, because business processes are routines performed in commerce. The concept of business processes as

exemplified by reconfiguring a model with selected stakeholders options after executing a generic process based on the model as developed from received and generated data is one idea for adapting such business processes. The steps recited in claim 21 are part of how this might conceptually be premised.

Our reviewing court has found claims to be directed to abstract ideas when they recited similar subject matter. *Affinity Labs of Texas, LLC v. Amazon.com Inc.*, 838 F.3d 1266, 1271 (Fed. Cir. 2016) (tailoring content); *Digitech Image Technologies, LLC v. Electronics for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014) (altering data); *Content Extraction and Transmission LLC v. Wells Fargo Bank*, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (data collection, recognition, and storage).

Alternately, this is an example of concepts performed in the human mind as mental processes, because the steps of receiving, updating, transmitting, and processing data mimic human thought processes of observation, evaluation, judgment, and opinion, perhaps with paper and pencil, where the data interpretation is perceptible only in the human mind. *See In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016); *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093–94 (Fed. Cir. 2016). Claim 21, unlike the claims found non-abstract in prior cases, uses generic computer technology to perform data reception, update, transmission, and processing, and does not recite an improvement to a particular computer technology. *See, e.g., McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314–15 (Fed. Cir. 2016) (finding claims not abstract because they “focused on a specific asserted improvement in computer animation”). As such, claim 21 is directed to receiving, updating,

transmitting, and processing data, and not a technological implementation or application of that idea.

From this we conclude that at least to this degree, claim 21 is directed to business processes by reconfiguring a model with selected stakeholders options after executing a generic process based on the model as developed from received and generated data, which is a commercial and legal interaction, one of certain methods of organizing human activity identified in the Revised Guidance, and, thus, an abstract idea.

STEP 2A Prong 2

The next issue is whether claim 21 not only recites, but is more precisely directed to this concept itself or whether it is instead directed to some technological implementation or application of, or improvement to, this concept i.e., integrated into a practical application.⁸

At the same time, we tread carefully in construing this exclusionary principle lest it swallow all of patent law. At some level, “all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” Thus, an invention is not rendered ineligible for patent simply because it involves an abstract concept. “[A]pplication[s]” of such concepts “to a new and useful end,” we have said, remain eligible for patent protection. Accordingly, in applying the § 101 exception, we must distinguish between patents that claim the “buildin[g] block[s]” of human ingenuity and those that integrate the building blocks into something more.

Alice, 573 U.S. at 217 (citations omitted).

Taking the claim elements separately, the operation performed by the computer at each step of the process is expressed purely in terms of results,

⁸ See, e.g., *Alice*, 573 U.S. at 223, discussing *Diamond v. Diehr*, 450 U.S. 175 (1981).

devoid of implementation details. Steps 1, 5, and 6 are pure data gathering steps. Limitations describing the nature of the data do not alter this. Steps 2–4, 7, and 8 recite generic computer processing expressed in terms of results desired by any and all possible means and so present no more than conceptual advice. All purported inventive aspects reside in how the data is interpreted and the results desired, and not in how the process physically enforces such a data interpretation or in how the processing technologically achieves those results.

We next focus on the claim limitation “via a manager module within an autonomic element” in limitation 7. We construed this autonomic element as some software or hardware element that controls a managed element by configuring, monitoring performance of, and deliberating and executing needed changes of a managed element, *supra*. This is at best conceptual advice for automating such functions, as there are technological implementation details neither in the Specification nor in the claims. Simply to label the bundle of such functions is insufficient to find structural or technological support for this limitation.

Viewed as a whole, Appellant’s claim 21 simply recites the concept of business processes as exemplified by reconfiguring a model with selected stakeholders options after executing a generic process based on the model as developed from received and generated data as performed by a generic computer. This is no more than conceptual advice on the parameters for this concept and the generic computer processes necessary to process those parameters, and do not recite any particular implementation.

Claim 21 does not, for example, purport to improve the functioning of the computer itself. Nor does it effect an improvement in any other

technology or technical field. The 15 pages of specification do not bulge with disclosure, but only spell out different generic equipment⁹ and parameters that might be applied using this concept and the particular steps such conventional processing would entail based on the concept of business processes by reconfiguring a model with selected stakeholders options after executing a generic process based on the model as developed from received and generated data under different scenarios. They do not describe any particular improvement in the manner a computer functions. Instead, claim 21 at issue amounts to nothing significantly more than an instruction to apply business processes by reconfiguring a model with selected stakeholders options after executing a generic process based on the model as developed from received and generated data using some unspecified, generic computer. Under our precedents, that is not enough to transform an abstract idea into a patent-eligible invention. *See Alice*, 573 U.S. at 225–26.

None of the limitations reflect an improvement in the functioning of a computer, or an improvement to other technology or technical field, applies or uses a judicial exception to effect a particular treatment or prophylaxis for a disease or medical condition, implements a judicial exception with, or uses a judicial exception in conjunction with, a particular machine or manufacture that is integral to the claim, effects a transformation or reduction of a particular article to a different state or thing, or applies or uses the judicial exception in some other meaningful way beyond generally linking the use of the judicial exception to a particular technological environment, such that

⁹ The Specification describes a general purpose computer system. Spec. para. 39.

the claim as a whole is more than a drafting effort designed to monopolize the exception.

We conclude that claim 21 is directed to achieving the result of business processes by advising one to reconfigure a model with selected stakeholders options after executing a generic process based on the model as developed from received and generated data, as distinguished from a technological improvement for achieving or applying that result. This amounts to commercial or legal interactions, which fall within certain methods of organizing human activity that constitute abstract ideas. The claim does not integrate the judicial exception into a practical application.

STEP 2B

The next issue is whether claim 21 provides an inventive concept because the additional elements recited in the claim provide significantly more than the recited judicial exception.

The introduction of a computer into the claims does not generally alter the analysis at *Mayo* step two.

the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention. Stating an abstract idea “while adding the words ‘apply it’” is not enough for patent eligibility. Nor is limiting the use of an abstract idea “to a particular technological environment.” Stating an abstract idea while adding the words “apply it with a computer” simply combines those two steps, with the same deficient result. Thus, if a patent’s recitation of a computer amounts to a mere instruction to “implement[t]” an abstract idea “on . . . a computer,” that addition cannot impart patent eligibility. This conclusion accords with the preemption concern that undergirds our § 101 jurisprudence. Given the ubiquity of computers, wholly generic computer implementation is not generally the sort of “additional feature[e]” that provides any “practical assurance that the

process is more than a drafting effort designed to monopolize the [abstract idea] itself.”

Alice, 573 U.S. at 223–24 (citations omitted).

“[T]he relevant question is whether the claims here do more than simply instruct the practitioner to implement the abstract idea [] on a generic computer.” *Alice*, 573 U.S. at 225. They do not.

Taking the claim elements separately, the function performed by the computer at each step of the process is purely conventional. Using a computer for receiving, updating, transmitting, and processing data amounts to electronic data query and retrieval—one of the most basic functions of a computer. The limitation of “via a manager module within an autonomic element” within limitation 7 is not a step, but a functional characterization of the process that performs the recited selecting step, devoid of technological implementation details or structure. All of these computer functions are generic, routine, conventional computer activities that are performed only for their conventional uses. *See Elec. Power Grp. v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016). Also see *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303, 1316 (Fed. Cir. 2011) (“Absent a possible narrower construction of the terms ‘processing,’ ‘receiving,’ and ‘storing,’ . . . those functions can be achieved by any general purpose computer without special programming”). None of these activities are used in some unconventional manner nor do any produce some unexpected result. Appellant does not contend they invented any of these activities. In short, each step does no more than require a generic computer to perform generic computer functions. As to the data operated upon, “even if a process of collecting and analyzing information is ‘limited to particular content’ or a particular ‘source,’ that limitation does not make the collection

and analysis other than abstract.” *SAP America, Inc. v. InvestPic LLC*, 898 F.3d 1161, 1168 (Fed. Cir. 2018).

Considered as an ordered combination, the computer components of Appellant’s claim 21 add nothing that is not already present when the steps are considered separately. The sequence of data reception-update-transmission-processing is equally generic and conventional. *See Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014) (sequence of receiving, selecting, offering for exchange, display, allowing access, and receiving payment recited an abstraction), *Inventor Holdings, LLC v. Bed Bath & Beyond, Inc.*, 876 F.3d 1372, 1378 (Fed. Cir. 2017) (sequence of data retrieval, analysis, modification, generation, display, and transmission), *Two-Way Media Ltd. v. Comcast Cable Communications, LLC*, 874 F.3d 1329, 1339 (Fed. Cir. 2017) (sequence of processing, routing, controlling, and monitoring). The ordering of the steps is therefore ordinary and conventional.

We conclude that claim 21 does not provide an inventive concept because the additional elements recited in the claim do not provide significantly more than the recited judicial exception.

REMAINING CLAIMS

Claim 21 is representative. The remaining method claims merely describe process parameters. We conclude that the method claims at issue are directed to a patent-ineligible concept itself, and not to the practical application of that concept.

As to the structural claims, they are no different from the method claims in substance. The method claims recite the abstract idea implemented on a generic computer; the system claims recite a handful of generic

computer components configured to implement the same idea. This Court has long “warn[ed] . . . against” interpreting § 101 “in ways that make patent eligibility ‘depend simply on the draftsman’s art.’”

Alice, 573 U.S. at 226. As a corollary, the claims are not directed to any particular machine.

LEGAL CONCLUSION

From the above determinations we further determine that the claims do not recite an improvement to the functioning of the computer itself or to any other technology or technical field, a particular machine, a particular transformation, or other meaningful limitations. From this we conclude the claims are directed to the judicial exception of the abstract idea of certain methods of organizing human activity, as exemplified by the commercial and legal interaction of business processes by reconfiguring a model with selected stakeholders options after executing a generic process based on the model as developed from received and generated data, without significantly more.

APPELLANT’S ARGUMENTS

As to Appellant’s Appeal Brief arguments, we adopt the Examiner’s determinations and analysis from the Non-Final Action 15–17 and Answer 3–9, and reach similar legal conclusions. We now turn to the Reply Brief.

We are not persuaded by Appellant’s argument that the claimed autonomic element is a specialized computing component that has functionality beyond a general-purpose computer. Specifically, as discussed in the Appeal Brief, an autonomic element is a fundamental component of an autonomic computing system, which is a non-conventional computing system. The functionality of the claimed manager

module is clearly defined in Appellant's Specification, specifically in FIGS. 5 and 6 and the related disclosure (see, e.g., Specification paragraphs [0033]-[0034]). Furthermore, Appellant reiterates that the Examiner improperly disregards the significance of the claimed manager module, which is indispensable to selecting a process alternative among alternative options and reconfiguring an instance of a high-variability executable model based on the selected process alternative. As previously discussed in the Appeal Brief and as further discussed herein, these claimed elements require processing beyond the generic computing implementation alleged by the Examiner.

Reply Br. 2. As we determine *supra*, the claimed autonomic element is at best conceptual advice for automating such functions, as there are no technological implementation details in the Specification nor in the claims. Simply to label the bundle of such functions is insufficient to find structural or technological support for this limitation. Some technological implementation may be “a specialized computing component that has functionality beyond a general-purpose computer” (*id.*), but no such implementation is recited in the claims or described in the Specification.

At that level of generality, the claims do no more than describe a desired function or outcome, without providing any limiting detail that confines the claim to a particular solution to an identified problem. The purely functional nature of the claim confirms that it is directed to an abstract idea, not to a concrete embodiment of that idea.

Affinity Labs, 838 F.3d at 1269.

We are not persuaded by Appellant's argument that the claimed steps in the instant case involve execution of multiple steps via a manager module within an autonomic element, which as previously discussed is a fundamental component of an autonomic computing system. More specifically, the steps involving the claimed manager module

include selecting a process alternative by analyzing results of business process execution monitoring and received updated stakeholder preferences. The steps involving the claimed manager module further include reconfiguring an executable model instance based on the selected process alternative by executing reconfiguration changes.

Reply Br. 3. Again, the manager module within the recited autonomic element is only a name for a collection of operations described functionally with no technological implementation detail.

We are not persuaded by Appellant’s argument that information analysis per the claimed steps of the instant case results in selection of a process alternative and model reconfiguration based on the process alternative selection, which in fact constitutes content that changes character. More specifically, with respect to model reconfiguration, [c]laim 1 explicitly recites reconfiguration of a high-variability executable model instance by executing reconfiguration changes via the claimed manager module. The recitations of [c]laim 1 clearly include aspects that are more transformative than mere measurement and information derivation.

Reply Br. 4. Reconfiguring a model is altering an abstraction. No technological implementation for the model or for the reconfiguration is recited or described.

We are not persuaded by Appellant’s argument that the claims are analogous to those in *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016). Reply Br. 4–5. The claims differ from those found patent eligible in *Enfish*, where the claims were “specifically directed to a *self-referential* table for a computer database.” 822 F.3d 1327, 1337 (Fed. Cir. 2016). The claims thus were “directed to a specific improvement to the way computers operate” rather than an abstract idea implemented on a computer. *Id.* at 1336. Here, by contrast, the claims are not directed to

an improvement in the way computers operate. Though the claims purport to accelerate the process of model parameter selection, our reviewing court has held that speed and accuracy increases stemming from the ordinary capabilities of a general purpose computer “do[] not materially alter the patent eligibility of the claimed subject matter.”

Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Can. (U.S.), 687 F.3d 1266, 1278 (Fed. Cir. 2012). Instead, the claims are more analogous to those in *FairWarning*, 839 F.3d 1089, wherein claims reciting “a few possible rules to analyze audit log data” were found directed an abstract idea because they asked “the same questions (though perhaps phrased with different words) that humans in analogous situations detecting fraud have asked for decades.” 839 F.3d at 1094, 1095.

We are not persuaded by Appellant’s argument that “the claimed subject matter nevertheless would be patent eligible due to its improvement to computer technology.” Reply Br. 6. The claims recite functional results to provide better information, and do not recite technological implementation details for better computer technology. “The claims are focused on providing information to traders in a way that helps them process information more quickly, not on improving computers or technology.”

Trading Techs. Int’l, Inc. v. IBG LLC, 921 F.3d 1378, 1384 (Fed. Cir. 2019).

Claims 1–7, 11, 12, 18–22, 24, and 27–29 rejected under 35 U.S.C. § 102(b) as anticipated by Bonabeau

We are persuaded by Appellant’s argument that “Bonabeau does not teach or suggest anything analogous to planning or executing reconfiguration changes with respect to an instance of an executable model

via a manager module within an autonomic element.” App. Br. 18. The Examiner determines that

the claims that are amended are still very broad in nature, and merely require some sort of autonomy (i.e. an autonomic element) in planning reconfiguration changes with respect to the instance of HVEM. Therefore, Bonabeau has been cited to teach of at least the breeding of business models and the use of an evolutionary method of taking highest ranked models and inputting into a next generation to update the performance models according to this repetitive loop. Given the broad nature of the language as claimed, Examiner believes that Bonabeau does still teach of the limitation

Ans. 13. The Examiner fails to consider the nature of the recited autonomic element as described in the Specification and construed *supra*. Although we do not import limitations from the Specification into the claims, we must construe the claims in light of the Specification.

Claim 13 rejected under 35 U.S.C. § 103(a) as unpatentable over Bonabeau and Hintermeister

The arguments *supra* are equally persuasive here because this is a dependent claim.

Claim 14 rejected under 35 U.S.C. § 103(a) as unpatentable over Bonabeau and Talekar

The arguments *supra* are equally persuasive here because this is a dependent claim.

CONCLUSIONS OF LAW

The rejection of claims 1–7, 11–14, 18–22, 24, and 27–29 under 35 U.S.C. § 101 as directed to a judicial exception without significantly more is proper.

The rejection of claims 1–7, 11, 12, 18–22, 24, and 27–29 under

35 U.S.C. § 102(b) as anticipated by Bonabeau is improper.

The rejection of claim 13 under 35 U.S.C. § 103(a) as unpatentable over Bonabeau and Hintermeister is improper.

The rejection of claim 14 under 35 U.S.C. § 103(a) as unpatentable over Bonabeau and Talekar is improper.

CONCLUSION

The rejection of claims 1–7, 11–14, 18–22, 24, and 27–29 is affirmed.

In summary:

Claims Rejected	35 U.S.C. §	Basis	Affirmed	Reversed
1–7, 11–14, 18–22, 24, 27–29	101	Eligibility	1–7, 11–14, 18–22, 24, 27–29	
1–7, 11, 12, 18–22, 24, 27–29	102(b)	Bonabeau		1–7, 11, 12, 18–22, 24, 27–29
13	103	Bonabeau, Hintermeister		13
14	103	Bonabeau Talekar		14
Overall Outcome			1–7, 11–14, 18–22, 24, 27–29	

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) (2011).

AFFIRMED