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 NAVENDU JAIN, ISHAI MENACHE,
JOSEPH NAOR, and JONATHAN YANIV

_____

Appeal 2017-003237
Application 13/344,596[1]
Technology Center 3600

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Before CAROLYN D. THOMAS, JASON V. MORGAN, and
PHILLIP A. BENNETT, *Administrative Patent Judges*.

MORGAN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Introduction

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's Final

Rejection of claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] Appellants identify Microsoft Technology Licensing, LLC and Microsoft
Corporation, as the real party in interest. App. Br. 3.

Invention

Appellants disclose a method of scheduling computing resources based on the job completion values associated with each respective computing job. Abstract.

Representative Claim

1. A method at least partially performed via at least one data processing apparatus, the method comprising:

obtaining, via at least one device processor of the at least one data processing apparatus, a plurality of requests for execution of computing jobs on one or more devices that include a plurality of computing resources, the one or more devices configured to flexibly allocate the plurality of computing resources, each of the computing jobs including job completion values representing a worth to a respective user that is associated with execution completion times of each respective computing job, the job completion values being received from the respective users with the requests for execution as a respective value function, each respective value function specifying a plurality of respective values gained for each of the respective users if the respective computing job is completed at respective completion times corresponding to the respective values; and

scheduling, via one or more device processors of the at least one data processing apparatus, the computing resources based on the job completion values associated with each respective computing job, using a system objective of social welfare that uses an approximation of a maximum aggregate value of the obtained job completion values.

Rejection

The Examiner rejects claims 1–20 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Final Act. 2–3.

FINDINGS AND CONTENTIONS

The Examiner concludes that claim 1, being directed to scheduling a processor for tasks or optimizing the use of processor, is directed to an abstract idea. Final Act. 2. In particular, the Examiner concludes that "optimizing resource usage is a very old problem that is not deeply rooted in software." Ans. 3. The Examiner finds the claimed invention is not directed to a patentable improvement in computer technology because, even if the claimed scheduling is used, operations still take the same amount of time to complete. *Id.*

The Examiner further concludes that claim 1 requires no more than generic computer functions and, therefore, lacks additional elements, or a combination of elements, sufficient to amount to significantly more than the underlying abstract idea. Final Act. 2–3; Ans. 3.

Appellants contend the Examiner erred because "the 'focus' of independent claim 1 is on a 'specific asserted improvement in computer capabilities,' and not 'on a process that qualifies as an "abstract idea" for which computers are invoked merely as a tool.' " App. Br. 27. Appellants argue, in particular, that compared with other scheduling techniques, the claimed scheduling technique achieves:

> benefits such as preventing fluctuations between high and low utilization of computing resources, keeping computing resources constantly utilized, fewer executions of approximations (increased efficiency in approximations), increased efficiency in scheduling of computing resources and computing jobs, flexibility to allocate jobs a variable amount of resources which may be exploited for more efficient utilization, including resolving potential congestion (e.g., increased flexibility).

Id. at 28 (citing Spec. ¶¶ 12, 13, 89–92, 97, 164, 205, 206).

Appellants further argue the Examiner fails "to acknowledge that, by using the claimed invention, submitted jobs not only make more efficient use of computer resources, but may in fact execute to completion sooner (or later), given the new scheduling constraints clearly recited by the claims." Reply Br. 17.

Appellants make similar arguments with respect to independent claims 7 and 15, as well as with respect to dependent claims 3–6, 8–11, 16, and 17. App. Br. 29–48. Appellants do not argue claims 2, 12–14, and 18–20 separately.

ANALYSIS

We agree with and adopt as our own the Examiner's findings of facts and conclusions as set forth in the Answer and in the Action from which this appeal was taken. We have considered Appellants' arguments, but do not find them persuasive of error. We provide the following explanation for emphasis.

To be statutorily patentable, the subject matter of an invention must be a "new and useful process, machine, manufacture, or composition of matter, or [a] new and useful improvement thereof." 35 U.S.C. § 101. There are implicit exceptions to the categories of patentable subject matter identified in § 101, including: (1) laws of nature; (2) natural phenomena; and (3) abstract ideas. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014). The Supreme Court has set forth a framework for distinguishing patents with claims directed to these implicit exceptions "from those that claim patent-eligible applications of those concepts." *Id.* (citing *Mayo Collaborative Servs. v. Prometheus Labs, Inc.*, 566 U.S. 66 (2012)). The evaluation follows a two-part analysis: (1) determine whether

the claim is directed to a patent-ineligible concept, e.g., an abstract idea; and
(2) if a patent-ineligible concept is present in the claim, determine whether
any element, or combination of elements, in the claim is sufficient to ensure
that the claim amounts to significantly more than the patent-ineligible
concept itself. *See Alice*, 134 S. Ct. at 2355. A claimed invention can be
found non-abstract if "directed to a specific implementation of a solution to
a problem in the software arts." *Enfish, LLC v. Microsoft Corp.*, 822 F.3d
1327, 1339 (Fed. Cir. 2016). An invention can also be found non-abstract if
"the claimed solution is necessarily rooted in computer technology in order
to overcome a problem specifically arising in the realm of computer"
technology. *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257
(Fed. Cir. 2014).

We do not find Appellants' arguments persuasive because, as the
Examiner correctly notes, the problem of resource optimization "is a very
old problem that is not deeply rooted in software." Ans. 3. It is insufficient
that the resources being optimized are "computing resources." *Cf. Prism
Techs. LLC v. T-Mobile USA, Inc.*, 696 F. App'x 1014, 1017 (Fed. Cir.
2017) (non-precedential) (a method for controlling access to protected
computer resources was "directed to the abstract idea of 'providing restricted
access to resources'"), *cert. denied*, 138 S. Ct. 689 (2018). The problem of
allocating resources in an optimal manner does not specifically arise in
computer technology, but is, as the Examiner concludes, a "fundamental
economic principal" (Ans. 5) directed to managing finite resources in the
face of potentially excess demand.

Furthermore, the claimed method does not result in an improvement
in computer functionality itself. *See Enfish*, 822 F.3d at 1336. As the

Examiner correctly notes, jobs executed according to a schedule produced using the claimed method would not take less time to perform. *See* Ans. 4. Appellants' argument that "submitted jobs . . . may in fact execute to completion sooner (or later)" (Reply Br. 17) is unpersuasive because any earlier completion using the claimed invention does not arise from improved computer functionality (e.g., faster execution), but merely from higher-priority jobs displacing lower-priority jobs. *Cf. Enfish*, 822 F.3d at 1337 (the non-abstract claimed invention achieved benefits over conventional databases "such as increased flexibility, faster search times, and smaller memory requirements").

Appellants identify a number of potential benefits that could be realized when using the claimed scheduling method. *See* App. Br. 24–26, 28. However, the claimed invention is not itself "directed to a specific improvement to computer functionality." *Enfish*, 822 F.3d at 1338 (citing, e.g., *Gottschalk v. Benson*, 409 U.S. 63 (1972)). Rather than being directed to a particular computer architecture or to an improvement in the functioning of a computer system, the claimed invention is directed merely to "the use of generic computer components to carry out the recited abstract idea" of scheduling computer resources. *Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC*, 874 F.3d 1329, 1338 (Fed. Cir. 2017).

For these reasons, we agree with the Examiner that claim 1 is directed to an abstract idea.

We now turn to the second step of the Alice framework: "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*, 134 S. Ct. at 2355 (citing *Mayo*, 566 U.S. at 73).

On the record before us, Appellants in essence fail to dispute that the claims are not *significantly more* than a patent-ineligible concept, but merely make the conclusory statement that "the elements of claim 1 (discussed above), <u>considered both individually and as an ordered combination</u>, are sufficient to ensure that the claim as a whole amounts to significantly more than the exception itself" (App. Br. 28), without specifically explaining why. Thus, there is no controversy presented by Appellants for the second step of *Alice*.

Filing a Board Appeal does not, unto itself, entitle Appellants to a *de novo* review of all aspects of a rejection. If Appellants fail to present arguments on a particular issue, the Board will not, as a general matter, unilaterally review those uncontested aspects of the rejection. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential) (citing, *inter alia*, *Hyatt v. Dudas,* 551 F.3d 1307, 1313–14 (Fed. Cir. 2008) (the Board may treat arguments Appellant failed to make for a given ground of rejection as waived)).

Accordingly, we sustain the Examiner's 35 U.S.C. § 101 rejection of claim 1, and, for similar reasons, claims 2–20.

DECISION

We affirm the Examiner's decision rejecting claims 1–20.

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. § 41.50(f).

<u>AFFIRMED</u>