UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/930,275	06/28/2013	Mariana Valeva	B114	5316

152606   7590   11/15/2018

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ART UNIT	PAPER NUMBER
2194	

MAIL DATE	DELIVERY MODE
11/15/2018	PAPER

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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 MARIANA VALEVA and KIRIL KARAATANASSOV

———————

Appeal 2017-009092
Application 13/930,275[1]
Technology Center 2100

———————

Before MICHAEL J. STRAUSS, BETH Z. SHAW, and
DAVID J. CUTITTA II, *Administrative Patent Judges*.

CUTITTA, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant seeks our review under 35 U.S.C. § 134(a) of the
Examiner's decision rejecting claims 1–20, which are all the claims pending
in the application. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

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[1] VMWARE, INC. ("Appellant"), Mariana Valev, and Kiril Karaatanassov
are the applicants, as provided for under 37 C.F.R. § 1.46. The Brief
identifies VMWARE, INC. as the real party in interest. *See* Appeal Br. 1.

STATEMENT OF THE CASE

Invention

Appellant's invention relates to "the use of additional links, or hyperlinks, in the body of responses to GET requests [to] inform clients of RESTful API extensions." Spec. ¶ 41.[2]

Exemplary Claims

Claims 1 and 13 are independent. Claims 1, 3, 12, and 13 are exemplary and are reproduced below.

> 1. A link registry comprising:
>
> a link-registry application programming interface;
>
> a set of one or more link-registry entries, stored in a physical data-storage device or medium, that each includes one or more hyperlinks to add to response messages returned in response to request messages that represent a method applied to a resource or resources specified by one of a resource identifier and a representation of a resource identifier that is also included in the link-registry entry; and
>
> a control component that is invoked, by a call to the link-registry application programming interface by a processor-controlled device, during processing of a request message by the processor-controlled device, to add hyperlinks encoded in link-registry entries to a corresponding response message.

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[2] Throughout this Decision, we refer to: (1) Appellant's Specification filed June 28, 2013 ("Spec."); (2) the Final Office Action ("Final Act."), mailed March 10, 2016; (3) the Appeal Brief filed October 18, 2016 and Supplemental Appeal Brief filed December 13, 2016 ("Appeal Br."); (4) the Examiner's Answer ("Ans."), mailed March 24, 2017; and (5) the Reply Brief filed May 30, 2017 ("Reply Br.").

3.   The link registry of claim 1 wherein the control component identifies one or more link-registry entries that are applicable to the request message and corresponding response message as those link-registry entries containing the resource identifier that occurs in the request message.

12.   The link registry of claim 11 wherein the processor-controlled device is of:

a server computer that provides a web service to client computers; and

a processor-controlled client device that uses a web service provided by one or more server computers.

13.   A method for extending an application programming interface that defines a service provided by one or more server computers, the method comprising:

providing a link-registry application programming interface;

providing a physical data-storage device or medium in which link-registry entries are stored, each link-registry entry including one or more hyperlinks to add to response messages returned by the service in response to request messages transmitted from client devices to the service as well as one of a resource identifier and a representation of a resource identifier; and

during generation of a response message corresponding to a request message received by the service,

identifying one or more link-registry entries that are applicable to the request message and corresponding response message, and

adding hyperlinks encoded in the identified one or more link-registry entries to the corresponding response message.

Appeal Br. 36–38.

REFERENCES AND REJECTIONS

Claims 1–20 stand rejected under 35 U.S.C. § 112(a), as failing to comply with the written description requirement. Final Act. 5–16.

Claims 3, 5, and 13–20 stand rejected under 35 U.S.C. § 112(b) as being indefinite. Final Act. 16–18.

Claims 1–20 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Final Act. 18–20.

Claims 1–20 stand rejected under 35 U.S.C. § 103 as being unpatentable over the combination of Johnston (US 2009/0187573 A1; July 23, 2009) and Pike (US 2007/0233580 A1; Oct. 4, 2007). Final Act. 20–39.

Our review in this appeal is limited only to the above rejections and the issues raised by Appellant. Arguments not made are waived. *See* MPEP § 1205.02 (9th ed., rev. 7; Oct. 2015); 37 C.F.R. §§ 41.37(c)(1)(iv) and 41.39(a)(1) (2015).

CONTENTIONS AND ANALYSIS

Issue 1 - Written Description Rejection of Claims 1–11

Issue: Does the Examiner properly reject claim 1 under 35 U.S.C. § 112(a) as lacking support in the originally filed Specification for the limitation "a method applied to a resource or resources specified by one of a resource identifier and a representation of a resource identifier"?

Whether a specification complies with the written description requirement of 35 U.S.C. § 112(a) is a question of fact and is assessed on a case-by-case basis. *See, e.g., Purdue Pharma L.P. v. Faulding, Inc.*, 230 F.3d 1320, 1323 (Fed. Cir. 2000) (citing *Vas-Cath Inc. v. Mahurkar*, 935

4

F.2d 1555, 1561 (Fed. Cir. 1991)). The disclosure, as originally filed, need not literally describe the claimed subject matter (i.e., using the same terms or *in haec verba*) in order to satisfy the written description requirement. But the Specification must convey with reasonable clarity to those skilled in the art that, as of the filing date that Appellant was in possession of the claimed invention. *See id.*

> The Examiner finds:
>
> the claim appears to imply that multiple "resources" can be specified by a resource identifier and a representation of a resource identifier, but paragraphs [0046] and [0048] disclose[] that the resource identifier and symbol-string representation are for a particular resource only.

Final Act. 7.

Appellant argues the requisite written description is provided in the Specification at paragraphs 30 and 31. Appeal Br. 7–12. Appellant points out "a resource can be multiple records, can be multiple people, or multiple organizations." Appeal Br. 8–9 (citing Spec. ¶ 30). Appellant likens the claimed resource identifier to "path names [that] can specify directories containing subdirectories, each of which contains multiple files," i.e., resources. Appeal Br. 8 (citing Spec. ¶ 32) ("In one sense, the URIs bear similarity to path names to files in file directories provided by computer operating systems.").

We are persuaded the Specification conveys with reasonable clarity to those skilled in the art that, as of the filing date, Appellant was in possession of the claimed invention. Appellant's Specification discloses that "[a] resource may be any logical entity, including people, digitally encoded documents, organizations, and other such entities that can be described and

characterized by digitally encoded information." Spec. ¶ 30. In this light,
Appellant's Specification may be reasonably interpreted as disclosing a URI
points to a plurality of resources. Spec. ¶ 31 ("All of the customer resources
314–318 are collectively named or specified by the single URI . . . 320.").

Because Appellant has persuaded us of error in the written-description
rejection of independent claim 1, we do not sustain the Examiner's rejection
of claim 1 under 35 U.S.C. § 112(a). For the same reasons, we also do not
sustain the Examiner's rejection of claims 2–11 under 35 U.S.C. § 112(a).

Issue 2 - Written Description Rejection of Claim 12

Issue: Does the Examiner properly reject claim 12 under
35 U.S.C. § 112(a) as lacking support in the originally filed Specification for
the limitation "wherein the processor-controlled device is of: a server
computer that provides a web service to client computers; and a processor-
controlled client device"?

Claim 1 recites "a processor-controlled device" that invokes a control
component to "add hyperlinks" to a *response* message. Appeal Br. 36.
Claim 12 depends indirectly from claim 1 and further limits claim 1's
"processor-controlled device" to be of "a server computer" "*and* a
processor-controlled client device." Appeal Br. 38 (emphasis added). The
Examiner finds claim 12's inclusion of "and" between server computer and
processor-controlled client device implies "that the processor-controlled
device is [both] a server computer and a client device, but paragraph [0026]
discloses two separate computers for a client and server." Final Act. 12.
The Examiner concludes that "there is no support for . . . a processor-
controlled device that is both a server computer and a client device." *Id.*

Appellant argues that an application programming interface based on an HTTP RESTful protocol can be generally accessed by any type of computing device that can issue HTTP requests via a RESTful protocol and "[s]uch devices include server computers and processor-controlled client devices." Appeal Br. 12 (citing Spec. ¶ 30).

We are unpersuaded of Examiner error. We agree with the Examiner that the Specification describes the server computer adding hyperlinks encoded in link-registry entries to a *response* message 452 in reply to a request message 446 sent by a remote client. *See* Spec. Fig. 4b, ¶ 36. Appellant does not point out any portion of the Specification, including paragraph 30, that describes a *client device* that invokes a control component to add hyperlinks to a *response* message, as claimed.

We, therefore, sustain the Examiner's rejection of claim 12 under 35 U.S.C. § 112(a).

Issue 3 - Written Description Rejection of Claims 13–20

Issue: Does the Examiner properly reject claim 13 under 35 U.S.C. § 112(a) as lacking support in the originally filed Specification for the limitation "each link-registry entry including one or more hyperlinks to add to response messages returned by the service in response to request messages transmitted from client devices to the service as well as one of a resource identifier and a representation of a resource identifier"?

The Examiner finds "the originally filed specification does not provide support for adding hyperlinks 'as well as one of a resource identifier and a representation of a resource identifier' to response messages." Final Act 8.

Because Appellant presents no argument in response to the rejection (*see generally* Appeal Br.), we summarily sustain this rejection. *See* MPEP § 1205.02 ("If a ground of rejection stated by the examiner is not addressed in the appellant's brief, that ground of rejection will be summarily sustained by the Board.").

We, therefore, sustain the Examiner's rejection of claim 13 under 35 U.S.C. § 112(a) and the rejection of claims 14–20 for similar reasons.

Issue 4 - Indefiniteness Rejection of Claims 3, 5 and 13–20

Issue: Does the Examiner properly reject claims 3, 5, 13, and 14 under 35 U.S.C. § 112(b) as indefinite?

The Examiner finds "the limitation 'containing the resource identifier,'" as recited in claim 3, and similarly recited in claims 5 and 14, render the claims indefinite under 35 U.S.C. 112(b). Final Act. 16–18. Claim 3 depends from claim 1. Specifically, the Examiner finds it is unclear whether "'the resource identifier' [of claim 3] is referring to 'a resource identifier' in line 6 of claim 1 or 'a resource identifier' in line 7 of claim 1." Final Act. 16–17.

Appellant argues the Specification clearly informs one skilled in the art of the boundaries of the claimed subject matter because in claim 1, "the phrase 'request messages that represent a method applied to a resource or resources specified by one of a resource identifier and a representation of a resource identifier' refers to a request message . . . that includes either a resource identifier or a representation of a resource identifier." Appeal Br. 13.

"In the USPTO, an applicant's 'claim is, or is supposed to be, examined, scrutinized, limited, and made to conform to what he is entitled to.'" *In re Packard*, 751 F.3d 1307, 1311 (Fed. Cir. 2014) (citation omitted). "The legal standard for definiteness is whether a claim reasonably apprises those of skill in the art of its scope." *In re Warmerdam*, 33 F.3d 1354, 1361 (Fed. Cir. 1994) (citation omitted). "'[A] claim is indefinite when it contains words or phrases whose meaning is unclear.'" *Packard*, 751 F.3d at 1310, 1314–15 (citing Manual of Patent Examining Procedure (MPEP) § 2173.05(e)).

After review of the respective positions provided by Appellant and the Examiner, we agree with Appellant that in view of the cited paragraphs of the Specification, the Examiner has not demonstrated that one skilled in the art would not have understood whether "'the resource identifier' [of claim 3] is referring to 'a resource identifier' in line 6 of claim 1 or 'a resource identifier' in line 7 of claim 1." Final Act. 16–17. Appellant's Specification discloses that a resource and a representation of a resource are different things:

> A resource may be any logical entity, including people, digitally encoded documents, organizations, and other such entities that can be described and characterized by digitally encoded information. A resource is thus a logical entity. Digitally encoded information that describes the resource and that can be accessed by a client computer from a server computer is referred to as a "representation" of the corresponding resource.

Spec. ¶ 30. Thus, we agree that a resource identifier and a representation of a resource identifier are different for the same reason that a resource and a representation of a resource are different. For this reason, we agree with

Appellant that those of skill in the art are reasonably apprised that claim 3's limitation "containing *the resource identifier*" refers to claim 1's "resource identifier" and not to claim 1's "representation of a resource identifier."

We, thus, do not sustain the Examiner's rejection of claim 3 under 35 U.S.C. § 112, second paragraph. Claims 5 and 14 also include the disputed limitation and so we do not sustain the Examiner's rejection of claims 5 and 14 for similar reasons.

The Examiner also finds independent claim 13 is indefinite under 35 U.S.C 112(b). Final Act. 17. The Examiner rejects dependent claims 14–20 using the same reasoning as claim 13. *Id.* Appellant responds that "Appellants' representative is not able to parse the Examiner's statement" and "claim 13 is clear as written." Ans. 13–14. We find Appellant's argument persuasive because we also are unable to follow the Examiner's rejection of claim 13. We, therefore, do not sustain the Examiner's indefiniteness rejection of claim 13 and of dependent claims 14–20, which are rejected with similar reasoning.

Accordingly, as discussed above, we do not sustain the Examiner's rejection of claims 3, 5 and 13–20 under 35 U.S.C. § 112, second paragraph.

Issue 5 - Rejection of Claims 1–12 Under § 101

Issue: Does the Examiner properly reject claim 1 under 35 U.S.C. § 101 as being directed to software alone and thus non-patentable subject matter?

The Examiner determines that claim 1 is "directed to 'A link registry', which appears to be software per [se]. Since software is merely a set of instructions capable of being executed by a computer, the software itself is

non-statutory matter." Final Act. 18. Specifically, the Examiner finds the "originally filed specification does not provide a definition for a 'medium', and one of ordinary skill in the art would understand 'medium' to include [transitory] carrier waves or signals."

Appellant argues the claim is not directed to computer instructions alone but additionally includes "processors, and other electromechanical devices that support the one or more processors [and] are able to carry out a process such as adding hyperlinks encoded in link-registry entries to a corresponding response message" such as the control component recited in claim 1. Reply Br. 11 (citing Spec. ¶ 24).

We find Appellant's argument persuasive. The Examiner improperly construes the claim as being directed to software alone. Claim 1, in addition to reciting software-embodied entries "stored in a physical data-storage device or medium," also recites "a control component." *See* Appeal Br. 36. As Appellant points out, the Specification describes the control components as "tangible and physical" components. Spec. ¶ 24 ("Computer-instruction-implemented control components of modern processor-controlled devices and systems are as tangible and physical as any other component of the system, including power supplies, cooling fans, electronic memories and processors, and other such physical components."). Also, claim 1 itself recites that the control component is invoked "by a processor-controlled device."

In determining the claim is limited to software per se, the Examiner does not consider every limitation and thus does not show that the claim is limited to software alone. Because we find the Examiner improperly interprets claim 1 as being directed only to software without physical, non-

transitory, structure, we do not sustain the Examiner's rejection of claim 1 as being directed to patent ineligible subject matter. We also do not sustain the rejection of dependent claims 2–12 under 35 U.S.C. § 101 for similar reasons.

Issue 6 - Rejection of Claims 13–20 Under § 101

Issue: Does the Examiner properly reject claim 13 under 35 U.S.C. § 101 as being directed to non-patentable subject matter?

The Examiner determines that claim 13 "is directed towards human activities, which can be done by hand with pen and paper," and thus, recites an abstract idea. Ans. 17; *see* Final Act. 19–20. The Examiner also determines "the claims are ineligible because they do not amount to significantly more than the abstract idea." Ans. 17.

Appellant argues the claims are not directed to human activities but rather are directed to a process driven improvement to computer-related technology by more efficiently adding hyperlinks encoded in link-registry entries to the corresponding response message. Appeal Br. 19–22; Reply Br. 12–15. Specifically, Appellant argues the "claimed method extends an application programming interface, using a link-registry application programming interface, to add hyperlinks to response messages returned in response to requests received through the application programming interface" (Appeal Br. 20) "without incurring significant computational and development overheads" (Appeal Br. 21 citing Spec. ¶ 46).

The Supreme Court has 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." *Alice*

12

Corp. Pty. v. CLS Bank Int'l, 134 S. Ct. 2347, 2355 (2014) (citing *Mayo Collaborative Servs. v. Prometheus Labs. Inc.*, 566 U.S. 66, 75–76 (2012)). According to the Supreme Court's framework, we must first determine whether the claims at issue are directed to one of those concepts (i.e., laws of nature, natural phenomena, and abstract ideas). *Id.* If so, we must secondly "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." *Id.* (internal citation omitted). The Supreme Court characterizes the second step of the 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.'" *Id.* (internal citation omitted).

With respect to step one of *Alice*, the "Supreme Court has suggested that claims 'purport[ing] to improve the functioning of the computer itself,' or 'improv[ing] an existing technological process' might not succumb to the abstract idea exception." *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) (citing *Alice*, 134 S. Ct. at 2358–59). Thus, our reviewing court guides that the first step in the *Alice* inquiry asks whether the focus of the claims is on a specific asserted improvement in computer capabilities or an existing technological process, or, instead, on a process that qualifies as an "abstract idea" for which computers are invoked merely as a tool. *Enfish*, 822 F.3d at 1335–36. *Accord McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016) ("We therefore look to whether the claims in these patents focus on a specific means or method that improves the relevant technology or are instead

directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery.").

Applying step one of the *Alice* analysis, we agree with Appellant that by extending functionality of an application programming interface by adding hyperlinks encoded in link-registry entries to a response message, the claim improves a *"computer-related technology." See* Appeal Br. 20–22; Ans. 14–17.

Moreover, our conclusion that the claim is directed to a specific improvement of an existing technology is supported by the Specification's disclosure that the claimed invention achieves benefits over conventional servers using RESTful APIs, by "extending RESTful APIs without incurring significant computational and development overheads." Spec. ¶ 46.

Viewing the claims as a whole and in light of the Specification, we find them similar, from a patent eligibility perspective, to the claims approved in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014). The *DDR* claims were held eligible because they recited a "solution . . . necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks." 773 F.3d at 1257. Appellant's claimed invention similarly provides a new way to overcome a problem (the inability to "develop[] and deploy[] practical extensible services and APIs" that are computationally efficient) specifically arising in the realm of client-server systems. Spec. ¶¶ 10, 46. We also disagree with the Examiner's finding that Appellant's claim recites "steps for providing, identifying, and adding [data that] are similar to the kind of human activity at issue in *Alice*." Final Act. 19. We do not agree that adding hyperlinks to response messages may reasonably be interpreted

14

as human activity. Regardless, Appellant's claim 13 as a whole, similar to the claims in *DDR*, is directed to an improved technique for overcoming a specific technological problem. Final Act. 19. Thus, according to step one of the *Alice* test, we determine claim 13 is not directed to an abstract idea. Because we find that claim 13 is not directed to ineligible subject matter, we do not reach step two of the *Alice* test. *Enfish*, 822 F.3d at 1339. We, therefore, do not sustain the Examiner's rejection of claim 13 as being directed to patent ineligible subject matter. We also do not sustain the rejection of dependent claims 14–20 under 35 U.S.C. § 101 for similar reasons.

Issue 7 - Rejection of Claims 1–20 Under § 103

Issue: Does the Examiner err in finding claim 1 is obvious over the combination of Johnston and Pike?

In support of the rejection of claim 1, the Examiner finds Johnston's discussion of a repository server teaches a link-registry and adding hyperlinks encoded in link-registry entries to a corresponding response message. *See* Appeal Br. 21–23.

Appellant disputes the Examiner's factual findings, arguing "[c]laim 1 is not directed to a repository server for managing a network of individual resources" and "[t]here is no language in claim 1 related to the various things mentioned in the . . . rejection." Appellant further argues "Johnston is an entirely unrelated reference" and so "Johnston clearly does not teach or suggest a link registry or anything at all related to adding hyperlinks encoded in link-registry entries to a corresponding response message." Appeal Br. 25, 26.

The Examiner responds to Appellant's arguments by concluding that that Appellant argues "against the references individually" and "one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references." Ans. 20 (citing *In re Keller*, 642 F.2d 413, 425 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986)). The Examiner, however, does not rely on Johnston in combination with Pike to teach the limitations argued by Appellant, but instead relies only on the teachings of Johnston. *See* Final Act. 20–23. Therefore, the Examiner's response that Appellant argues the references individually does not specifically address Appellant's arguments distinguishing the teachings of Johnston. *See* Appeal Br. 22–35; Reply Br. 15–23.

Accordingly, the Examiner does not, on the record before us, show that Johnston teaches or suggests "a set of one or more link-registry entries, stored in a physical data-storage device or medium, that each includes one or more hyperlinks," "to request messages that represent a method." Final Act. 22; *see* Ans. 18–24. Because we agree with at least one of the dispositive arguments advanced by Appellant for claim 1, we need not reach the merits of Appellant's other arguments. We, therefore, do not sustain the Examiner's 35 U.S.C. § 103 rejection of claim 1. We also do not sustain the rejection of independent claim 13, which recites limitations similar to the disputed limitations of claim 1. We, likewise, do not sustain the rejections of dependent claims 2–12 and 14–20.

CONCLUSIONS

We do not affirm the Examiner's decision to reject claims 1–11 under 35 U.S.C. § 112(a).

We affirm the Examiner's decision to reject claims 12–20 under 35 U.S.C. § 112(a).

We do not affirm the Examiner's decision to reject claims 3, 5, and 13–20 under 35 U.S.C. § 112(b).

We do not affirm the Examiner's decision to reject claims 1–20 under 35 U.S.C. § 101.

We do not affirm the Examiner's decision to reject claims 1–20 under 35 U.S.C. § 103.

DECISION

We affirm the Examiner's decision to reject claims 12–20.

We do not affirm the Examiner's decision to reject claims 1–11.

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

AFFIRMED-IN-PART