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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ABHAY GUPTA, RAMANA YEMENI,
SENTHIL SUBRAMANIAN, and TSUNG-JEN CHOU

Appeal 2017-011211
Application 13/074,096
Technology Center 3600

Before ELENI MANTIS MERCADER, BETH Z. SHAW, and
NORMAN H. BEAMER, *Administrative Patent Judges*.

MANTIS MERCADER, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from a rejection of claims 1–
20. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

CLAIMED SUBJECT MATTER

The claims are directed to scalable inventory protection and optimization in display advertising. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A computer implemented method for determining the eligibility of online advertisements resources, comprising:

with a computer system comprising (1) a non-transitory computer-readable medium storing logic and (2) one or more processors in communication with the computer readable medium and configured to execute the logic:

receiving, by the one or more processors of the computer system, a query from a user that specifies one or more constraints on one or more attributes associated with the online advertisements resources;

determining, through execution of the logic by the one or more processors of the computer system, and by comparing the query with one or more defined inventory protection rules, that the query targets a protected inventory;

automatically rewriting, through execution of the logic by the one or more processors of the computer system, and in response to the determination that the query targets the protected inventory, the received query into a modified query comprising the specified one or more constraints and an inventory protection constraint of the protected inventory, the inventory protection constraint configured to prevent one or more designated eligible online advertisements resources in the protected inventory from matching the modified query;

determining, through execution of the logic by the one or more processors of the computer system, a number of eligible online advertisements resources for the modified query by processing a first number of online advertisements resources that satisfy the modified query, wherein the first number of online advertisements resources determined to satisfy the modified query is less

than a second number of online advertisements resources associated with the received query; and
providing, through execution of the logic by the one or more processors of the computer system, and to the user, at least one of the number of eligible online advertisements resources for the modified query.

REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Bandy	US 6,002,344	Dec. 14, 1999
Benedikt	US 6,202,063 B1	Mar. 13, 2001
Ozer	US 2003/0101454 A1	May 29, 2003
Wang	US 2010/0042496 A1	Feb. 18, 2010
Schultz	US 2013/0212618 A1	Aug. 15, 2013

REJECTIONS

Claims 1–20 stand rejected under 35 U.S.C § 101 as being directed to a judicial exception without significantly more.

Claims 1–5 and 7–9 stand rejected under 35 U.S.C §103(a) as being unpatentable over Schultz in view of Benedikt and further in view of Wang.

Claims 10–14 and 16–20 stand rejected under 35 U.S.C § 103(a) as being unpatentable over Schultz in view of Benedikt and further in view of Wang and further in view of Bandy.

Claim 6 stands rejected under 35 U.S.C § 103(a) as being unpatentable over Schultz in view of Benedikt and further in view of Wang and further in view of Ozer.

Claim 15 stands rejected under 35 U.S.C § 103(a) as being unpatentable over of Benedikt and further in view of Wang in view of Bandy and further in view of Ozer.

OPINION

We adopt the Examiner’s findings in the Answer and Final Office Action and we add the following primarily for emphasis. We note that if Appellants failed to present arguments on a particular rejection, we will not unilaterally review those uncontested aspects of the rejection. *See Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential); *see also Hyatt v. Dudas*, 551 F.3d 1307, 1313–14 (Fed. Cir. 2008) (“[T]he Board may treat . . . argument[s]” Appellants failed to make for a given ground of rejection as waived).

Claims 1–20 stand rejected under 35 U.S.C § 101

Appellants argue that the current invention protects online advertising inventory from being accessed by an unauthorized online advertising campaign. App. Br. 8 citing para. 64. The technology can be scaled to use in realistic online advertising serving systems while maintaining low latency for critical operations such as booking advertising campaigns. *Id.* Appellants argue that claim 1 includes an ordered set of specific operations that allow a computer to provide this function, which was not available before in any conventional computer system. *Id.* In particular Appellants argue that independent claim 1 is not directed to an abstract idea because it focuses on improving a computer-related technology—online advertisement serving systems. App. Br. 6–8. Appellants explain that a modified query effectively targets the non-protected inventory while avoiding the protected inventory the original query would otherwise target. App. Br. 11 citing Spec. at paras. 70–71, 75–79. Moreover, according to Appellants, rewriting

the query into the modified query in the claimed manner is more efficient than the conventional method of checking to see whether each impression is included in a protected inventory package. App. Br. 11 citing Spec. at paras. 62, 65–67, 72, 75–79, and 81. According to Appellants this is reflected in the claim by the first number of online advertisements resources determined to satisfy the modified query being less than a second number of online advertisements resources associated with the received original query. App. Br. 11.

Appellants further argue that the elements of claim 1 do not merely automate a previously employed method. App. Br. 14. In particular, Appellants argue that if automation of a previously employed method of providing an improvement would not fall within the scope of a claim, that claim does not merely automate a previously employed method of providing the improvement. App. Br. 14 citing *McRO*, 837 F.3d at 1314 (distinguishing from *Flook*, *Bilski*, and *Alice*).

Appellants further argue that claim 1 is directed to significantly more than an abstract idea. App. Br. 15. Claim 1 does not merely recite “determining the eligibility of online advertisements resources,” or protecting online advertising inventory with low latency for critical system operations, along with the requirement to do so on the Internet or on a set of generic computer components. App. Br. 16. Appellants further assert that the claim does not preempt all ways of implementing either of those results. *Id.* Instead, Appellants argue, it includes a specific and unconventional computer element, i.e., the claimed inventory protection constraint describing a particular method of allowing a computer to protect online

advertising inventory from access by an unauthorized advertising campaign while also having low latency for critical system operations. *Id.*

We are not persuaded by Appellants' argument. The Supreme Court's two-step framework guides our analysis. *See Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014). According to step one, "[w]e must first determine whether the claims at issue are directed to a patent-ineligible concept," such as an abstract idea. *Id.*

Our reviewing court has concluded that abstract ideas include the concepts such as the collection and analysis of information. *Elec. Power*, 830 F.3d at 1353. Additionally, the collecting of data, recognizing certain data within the collected data set, and storing the data in memory are also abstract ideas. *Content Extraction & Transmission LLC v. Wells Fargo Bank, N.A.*, 776 F.3d 1343, 1347 (Fed. Cir. 2014). Similarly, "collecting, displaying, and manipulating data" is an abstract idea. *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1340 (Fed. Cir. 2017); *see also SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1167 (Fed. Cir. 2018) ("merely presenting the results of abstract processes of collecting and analyzing information . . . is abstract as an ancillary part of such collection and analysis" (citation omitted)). Moreover, "a process of organizing information through mathematical correlations and is not tied to a specific structure or machine" is abstract. *Digitech Image Techs., LLC v. Elec. for Imaging, Inc.*, 758 F.3d 1344, 1350 (Fed. Cir. 2014).

Further, merely combining several abstract ideas does not render the combination any less abstract. *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017) ("Adding one abstract idea (math) to another abstract idea . . . does not render the claim non-abstract."); *see also*

FairWarning IP, LLC v. Iatric Sys., Inc., 839 F.3d 1089, 1093–94 (Fed. Cir. 2016) (determining the pending claims were directed to a combination of abstract ideas).

In the instant case, Appellants’ claims are generally directed to the collection, organization, and manipulating advertisement availability using logic. We agree with the Examiner’s finding that advertising constitutes organizing human activity. Ans. 20. We further agree that the method steps are directed to an abstract idea of “***comparing new and stored information and using rules to identify options***” because they simply describe the concept of comparing received query information such as constraints/attributes regarding advertisement inventory (i.e., new information) against one or more stored inventory protection rules (i.e., stored information) to determine if the received query information/attributes regard the advertisement inventory as a protected inventory. *Id.* If it is protected inventory then rewriting the received query into a modified query to incorporate an inventory protection constraint to prevent designated eligible online advertisement resources in the protected inventory from matching the modified query (i.e., using rules to identify options) in order to obtain the number of eligible online advertisements only based on the modified query. *Id.*

Furthermore, merely “analyzing information by steps people go through in their minds, or by mathematical algorithms, without more, as essentially mental processes within the abstract-idea category” and “presenting the results of abstract processes of collecting and analyzing information, without more (such as identifying a particular tool for presentation), is abstract as an ancillary part of such collection and analysis.”

Elec. Power Grp., LLC v. Alstom S.A., 830 F.3d 1350, 1354 (Fed. Cir. 2016).

We agree with the Examiner that protection of online advertising inventory from being accessed by an unauthorized online advertising campaign is an abstract idea which can be done by a human using pen and paper. Ans. 5–6. The Examiner explains, and we agree, that receiving a query, determining if the query targets a protect inventory, rewriting the received query into a modified query to prevent one or more designated eligible online advertisement resources; and *determining a number of eligible advertisements resources for the modified query*, can be done by a human using a pen and paper. Ans. 6. For example, in the “rewriting” step, one example may merely be adding the word “NOT” next the resource to protect the inventory resource as indicated in Appellants’ Specification in paragraphs 93–94. *Id.*

Additionally, we agree with the Examiner that the argued “response time and latency” is not recited in the claimed invention of claim 1. Ans. 5.

Thus, we agree with the Examiner that the claims are directed to an abstract idea. Because the claims are “directed to an abstract idea,” we consider the claim limitations “both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 134 S. Ct. at 2355 (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 78–79 (2012)). The Supreme Court has described this analysis “as a search for an ‘inventive concept.’” *Alice*, 134 S.Ct. at 2355. Put differently, we must search the claims for an “inventive concept,” that is, “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 (quoting *Mayo*, 132 S. Ct. at 1294).

Here, we agree with the Examiner that that the computer “*automatically rewriting*” “*one or more processors in communication with the computer readable medium and configured to execute the logic*” is merely used as a tool to implement the identified abstract idea. Ans. 6. As explained in *OIP Technologies, Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1363 (Fed. Cir. 2015), “relying on a computer to perform routine tasks more quickly or more accurately is insufficient to render a claim patent eligible.” *See also Alice*, 573 U.S. at 224 (“use of a computer to create electronic records, track multiple transactions, and issue simultaneous instructions” is not an inventive concept); *Bancorp Servs., L.L.C. v. Sun Life Assur. Co. of Can. (U.S.)*, 687 F.3d 1266, 1278 (Fed. Cir. 2012) (a computer “employed only for its most basic function . . . does not impose meaningful limits on the scope of those claims”).

For the reasons discussed *supra*, we are unpersuaded that the Examiner erred in rejecting under 35 U.S.C. § 101 claim 1 as being directed to patent-ineligible subject matter. Accordingly, we sustain the Examiner’s rejection of claim 1. Additionally, we sustain the Examiner’s rejection of independent claims 2–20, which recite similar limitations and were not argued separately. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Claims 1–5 and 7–9 stand rejected under 35 U.S.C §103(a)

Appellants argue that the combination of Schultz, Benedikt, and Wang, either considered individually or in the proposed combination do not teach or suggest the limitations of:

automatically *rewriting . . . in response to the determination that the query targets the protected inventory, the received query into a modified query* comprising the specified one or more constraints and an inventory protection constraint of the protected inventory, the inventory protection constraint configured to prevent *one or more designated eligible online advertisements resources in the protected inventory* from matching the modified query; [and] *determining . . . a number of eligible online advertisements resources for the modified query* by processing a first number of on line advertisements resources that satisfy the modified query.

App. Br. 22. In particular, Appellants argue that the cited portions of Schultz are silent regarding rewriting the received query into a modified query. App. Br. 23. In Schultz, the search parameters of a search are not modified when they are received. *Id.* A parent's changing of user-related criteria for the network, such as what channels a given user can view, is not a modification to the search parameters *or* to the associated search. *Id.* Merely filtering the results of a search so the network will only display results authorized for a given user is not the same as rewriting the received query into a modified query. Schultz only changes which results of the search will be displayed, rather than rewriting an originally received search into a modified search. *Id.*

Appellants further argue that the cited portions of Benedikt are silent regarding automatically rewriting a received query into a modified query in response to a determination that the query targets protected inventory, the modified query including an inventory protection constraint configured to

prevent one or more designated eligible online advertisements resources in the protected inventory from matching the modified query. App. Br. 24.

Appellants also argue that Wang's allocating impressions among two contracts so as to fulfill both contracts while taking into account the relative priorities of the contracts is not the same as automatically rewriting a received query into a modified query in response to a determination that the query targets protected inventory. App. Br. 26–27. The cited portions of Wang do not even disclose rewriting a received query into a modified query. *Id.*

Appellants further argue that the modification of the teachings of the references would change the principle of operation of the primary reference Shultz. App. Br. 22–30.

We are not persuaded by Appellants' argument. The Examiner relies on Schultz for the teaching of performing filtering based on both the query that targets protected inventory and the user profiles but not merely based on the user submitted the query as argued by Appellants because in Schulz, the output is changed based on both the query received and the user profiles. Ans. 36. Benedikt teaches the general concept of automatically rewriting by the computer system, the received query into a modified query by adding restrictions/constraints into the original query /received query /same query. Ans. 37 citing Fig. 2, col. 15, ll. 1–60 especially ll. 12–45. Thus, it is the combination of Schultz and Benedikt, but not Schultz alone, cited to teach "rewriting the received query into a modified query in response to a determination that the query targets the protected inventory." Ans. 36–37. Furthermore, the Examiner relied on Wang to teach (the underlined features) of receiving a query from a user that specifies one or more constraints on

one or more attributes associated with the online advertisements resources (Fig. 7, paras. 29, 65–66). Ans. 42–43.

Accordingly, we sustain the Examiner’s rejections of claims 1–5 and 7–9.

Claims 10, 6, and 15 stand rejected under 35 U.S.C §103(a)

Appellants make additional arguments with respect to claims 10, 6, and 15. App. Br. 30–34. We adopt the Examiner’s Answer and Final Rejection findings with respect to these arguments without having to repeat them herein. *See* Ans. 53–58.

We emphasize that we agree with the Examiner’s finding with respect to Appellants’ arguments made regarding Bandy. In particular, we agree that “analogous art” does not have to be in the same field as the claimed invention. Ans. 56. A reference is qualified as “analogous art” as long as it is reasonably pertinent to the problem to be solved. *Id.* In Bandy, certain data is tagged for the purpose of identifying certain data for processing. *Id.* Thus, we agree with the Examiner that this is reasonably pertinent to the problem of protecting inventory in the combination of Schultz, Benedikt, Wang, and Bandy. *Id.*

We also agree with the Examiner’s finding that Ozer teaches *resources that have already been allocated to other consumer by indicating the overbooking of advertising inventory for a particular target* (Paras. 99, Fig. 2) teaches reservation module 32 delivers a notice to the individual scheduling advertising impression goals indicating that particular times are “overbooked” (i.e., two or more different campaigns are scheduled for the same time with impression targets that exceed available inventory). Ans. 56. Ozer also teaches not allowing a user to access already booked

advertising inventory (paras. 99–100). Thus, Ozer is introduced to teach *"resources that have already been allocated to other consumer by indicating the overbooking of advertising inventory for a particular target."* *Id.*

Accordingly, we sustain the Examiner's rejections of claims 6, 10, and 15. We also sustain dependent claims 11–14, 16, and 17–20 not argued separately.

DECISION

The Examiner's rejection of claims 1–20 is affirmed.

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