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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 ABHISHEK PANI and ZHENYU YAN
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Appeal 2019-003780
Application 13/656,497
Technology Center 3600
_____

Before J. JOHN LEE, DANIEL J. GALLIGAN, and
DAVID J. CUTITTA II, *Administrative Patent Judges*.

CUTITTA, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the
Examiner's decision to reject claims 1, 2, 4, 5, 7–10, 13–16, and 19–26.[2]
We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] We use the word Appellant to refer to "applicant" as defined in 37 C.F.R.
§ 1.42(a). Appellant identifies the real party in interest as Adobe Inc.
Appeal Br. 1.
[2] Claims 3, 6, 11, 12, 17, and 18 have been cancelled.

CLAIMED SUBJECT MATTER

According to Appellant, the claims are directed to selecting advertisements for an advertising campaign based on performance predictions for potential advertisements.[3] Abstract. Claim 1, reproduced below with bracketed lettering added for discussion purposes, is exemplary of the claimed subject matter:

> 1.   A computer implemented method for generating optimal subsets of creatives for web-based advertising campaigns, the method comprising:
>
> [a] determining, by creative manager system including a storage device and a plurality of modules implemented on one or more computers, whether a set of creatives for a campaign is of a sufficient size to construct a predictive model that is usable to determine an optimal subset of creatives;
>
> [b] in response to determining a sufficient set of creatives, determining an optimal subset of creatives by:
>
>> [c] constructing, by the creative manager system, the predictive model using collected performance data for an initial subset from the set of creatives, the collected performance data retrieved from the storage device;
>>
>> [d] using, by the creative manager system, the predictive model to generate predicted performance data for additional creatives from the set of creatives that are not in the initial subset; and

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[3] This Decision refers to: (1) Appellant's Specification filed October 19, 2012 ("Spec."); (2) the Final Office Action ("Final Act.") mailed May 14, 2018; (3) the Appeal Brief ("Appeal Br.") filed November 14, 2018; (4) the Examiner's Answer ("Ans.") mailed February 15, 2019; and (5) the Reply Brief ("Reply Br.") filed April 15, 2019.

[e] determining, by the creative manager system, the optimal subset of creatives based on the collected performance data and the predicted performance data, the optimal subset of creatives including one or more creatives from each of the initial subset and the additional creatives;

[f] automatically activating, by the creative manager system, the optimal subset of creatives; and

[g] automatically deactivating, by the creative manager system, a creative in the set of creatives that is not in the optimal subset of creatives, wherein activating the optimal subset of creatives and deactivating the creative in the set of creatives that is not in the optimal subset of creatives comprises:

[h] updating, by the creative manager system, creative control data for a creatives server, the creative control data indicating an active status of the optimal subset of creatives and an inactive status of the creative in the set of creatives that is not in the optimal subset of creatives, wherein updating the creative control data causes the creatives server to remove the creative with the inactive status from a subsequent transmission of electronic content and perform the subsequent transmission of electronic content with the optimal subset of creatives included in the subsequent transmission.

REJECTIONS

Claims 1, 2, 4, 5, 7–10, 13–16, and 19–26 stand rejected under 35

U.S.C. § 101 as directed to patent-ineligible subject matter. Final Act. 2–4.

Claims 1, 2, 4, 7–10, 13–16, and 19–26[4] stand rejected under 35

U.S.C. § 103(a) as being unpatentable over Richardson (US 2008/0249832

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[4] The Final Action lists claims 1, 2, 4, 7–10, 13–16, 19–20, 22–23, 25 as rejected over Richardson and Chang. Final Act. 5. However, the Final Action provides discussion for claims 1, 2, 4, 7–10, 13–16, and 19–26 as unpatentable over Richardson and Chang. *Id.* at 5–14. We understand this

A1, published Oct. 9, 2008) and Chang (US 7,406,434 B1, issued July 29, 2008). *Id.* at 5–14.

Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Richardson, Chang, and Lin (US 8,370,280 B1, issued Feb. 5, 2013). *Id.* at 14–15.

Our review in this appeal is limited to the above rejections and the issues raised by Appellant. Arguments not made are waived. *See* MPEP § 1205.02; 37 C.F.R. § 41.37(c)(1)(iv).

PRINCIPLES OF LAW

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

In determining whether a claim falls within an excluded category, we are guided by the Court's two-step framework, described in *Alice* and *Mayo*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim recites. *See Alice*, 573 U.S. at 219 ("On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.,* the use of a third party to mitigate settlement risk."); *see also*

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discrepancy to be a typographical mistake and further understand the Final Action rejects claims 1, 2, 4, 7–10, 13–16, and 19–26 over Richardson and Chang.

Bilski v. Kappos, 561 U.S. 593, 611 (2010) ("Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk.").

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

The Office published revised guidance on the application of § 101. *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (hereinafter "Guidance"). In October 2019, the USPTO published an update to that guidance. *October 2019 Patent Eligibility Guidance Update*, 84 Fed. Reg. 55,942 (hereinafter "Guidance Update"). Under the Guidance and the Guidance Update, in determining whether a claim falls within an excluded category, we first look to whether the claim recites:

> (1) Step 2A — Prong One: any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity, such as a fundamental economic practice, or mental processes); and

(2) Step 2A — Prong Two: additional elements that integrate
the judicial exception into a practical application (*see* MPEP[5]
§§ 2106.05(a)–(c), (e)–(h)).

See Guidance, 84 Fed. Reg. 54–55 ("Revised Step 2A"). Only if a claim (1)

recites a judicial exception and (2) does not integrate that exception into a

practical application, do we then look to whether the claim (Step 2B):

(3) adds a specific limitation beyond the judicial exception that
is not "well-understood, routine, conventional" in the field (*see*
MPEP § 2106.05(d)); or

(4) simply appends well-understood, routine, conventional
activities previously known to the industry, specified at a high
level of generality, to the judicial exception.

See id. at 56 ("*Step 2B: If the Claim Is Directed to a Judicial Exception,
Evaluate Whether the Claim Provides an Inventive Concept*.").

ANALYSIS

Patent Eligibility

We analyze the claims and the Examiner's rejection in view of the

Guidance and the Guidance Update, and we adopt the nomenclature for the

steps used in the Guidance. Appellant's arguments focus on limitations

recited in independent claim 1. *See* Appeal Br. 6–23. We, thus, select

claim 1 as representative. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Step 1

As an initial matter, the claims must recite at least one of four

recognized statutory categories, namely, machine, process, article of

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[5] All Manual of Patent Examining Procedure ("MPEP") citations herein are
to MPEP, Rev. 08.2017, January 2018.

manufacture, or composition of matter. MPEP § 2106(I); *see* 35 U.S.C.
§ 101. Independent claim 1 recites a method, claim 9 recites a system, and
claim 15 recites a non-transitory computer-readable storage medium. Thus,
the pending claims recite recognized statutory categories under § 101, i.e.,
processes, machines, and articles of manufacture, and we turn to the two-
step *Alice/Mayo* analysis applied in accordance with the Guidance.

 Step 2A, Prong One in the Guidance

 Next, we determine whether claim 1, being directed to a statutory
class of invention, nonetheless recites a judicial exception. Guidance, 84
Fed. Reg. 51.

 The Examiner determines that exemplary claim 1 recites a judicial
exception: an abstract idea. Ans. 2. In particular, the Examiner determines
the claim recites steps for "providing advertising," namely by "[s]electing
and transmitting advertising," the advertisement selection "based on
performance analysis and predictive modeling." *Id.*; Final Act. 2–4. In
correspondence with the Guidance, the Examiner determines that such
advertising schemes are certain methods of organizing human activity.
Ans. 2; Final Act. 3–4; Guidance, 84 Fed. Reg. 52. And, according to the
Guidance, certain methods of organizing human activity are a category of
abstract idea. Guidance, 84 Fed. Reg. 52.

 Appellant argues that, rather than reciting an abstract idea, the claims
recite an "application of particular rules [that] is used to control the
operation of electronic content communication systems by excluding certain
target devices from the transmission of electronic content in accordance with
the particular rules." Appeal Br. 6.

The Examiner's position is better supported by the record. As an initial matter, we note that Appellant mischaracterizes the Examiner's position with the assertion that "the only limitations identified by the Examiner as reciting an abstract idea are 'determining, by the creative manager system, the optimal subset of creatives' and 'automatically activating, by the creative manager system, the optimal subset of creatives.'" Reply Br. 2–4. The Examiner states that the "claimed invention recites the following abstract concept which has been identified as an abstract idea by the Courts: providing advertising," which is "a [certain] method of organizing human activity." Ans. 2. Although "[r]elevant claim limitations" in the Examiner's analysis "include" determining the optimal subset of creatives and automatically activating the optimal subset of creatives (*id.*), the Examiner's analysis is not confined to those limitations. For example, in the Final Rejection, the Examiner considers the majority of the limitations recited in claim 1 in determining that the claim recites steps for "providing advertising." *See* Final Act. 2–4.

Appellant's characterization that the claimed invention is a technical improvement for "selectively allowing or preventing network transmission of content" (Appeal Br. 6) ignores the Specification's description that the purpose of the invention is to create "[a]dvertising campaigns" that select "factors [that] are particularly well suited for a particular audience, product, seasonality, demographic or based on other criteria and then provide elements embodying those factors for incorporation into creatives," i.e., tailoring advertisements. Spec. ¶ 18. The Specification details an "approach [that] selects creatives with creative factors (image, title, and text body)," which "interact with audience targeting information (e.g. age, gender,

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location, education, interests).” Spec. ¶ 73. As such, the Specification supports the Examiner’s determination that the claim recites steps for selecting and presenting advertisements based on an advertising model.

Aligning with the Specification’s description, claim 1 reflects such an advertisement selection scheme. Initially, we note that we address additionally recited computer hardware-related features in the claim, i.e., a “creative manager system” and the “transmission of electronic content,” at a later step below. Limitations [a]–[c] recite steps to construct a predictive model for advertisements using past advertisement performance data. Limitations [d]–[e] then recite steps applying the predictive model to potential advertisements in order to select which advertisements will be used in an advertising campaign. Contrary to Appellant’s argument that those limitations apply “particular rules” (Appeal Br. 6, 8–9), those limitations do not recite any particular manner to create or use the predictive model. Instead, the claim identifies data used in the creation of the model and broadly claims the resulting model and selection of advertisements. As such, limitations [a]–[e] recite a scheme to select advertisements based on past advertisement performance in a broad and result-oriented manner; such tailoring of advertisements is typical in the creation of advertising campaigns. *See Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1369 (Fed. Cir. 2015). Limitations [f]–[h] recite steps for “activating” advertisements that were selected, “deactivating” advertisements that were not selected, and only transmitting the activated, i.e., selected, advertisements. Presenting the created advertising campaign is a typical step in any advertisement campaign; fundamentally, any advertising campaign is for presentation. Accordingly, claim 1 recites steps

in a certain method of organizing human activity, and, so, recites an abstract idea.

Step 2A, Prong Two in the Guidance

Next, we determine whether claim 1 is directed to the abstract 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. *See, e.g.*, *Alice*, 573 U.S. at 223 (discussing *Diamond v. Diehr*, 450 U.S. 175, 177 (1981)).

The Examiner determines that "[i]mproving the ad[vertisement] selection/transmission process pertains to a business practice improvement, not to a technical improvement." Ans. 3. The Examiner further determines that certain limitations, e.g., "selecting/de-selecting ad[vertisements]," are "insignificant extra solution activity." Ans. 4–5.

Appellant argues that "selectively allowing or preventing network transmission of content" is a "technical improvement." Reply Br. 4; Appeal Br. 6. Further, Appellant argues that the claimed invention

> integrates the alleged abstract idea into the practical application of controlling the delivery of electronic content to some target devices and preventing the delivery of electronic content to other target devices based on constructing a predictive model for a sufficiently sized set of creatives, which is a computer-specific function rather than an abstract idea.

Reply Br. 4 (emphasis omitted).

We are not persuaded claim 1 integrates the exception into a practical application. Appellant argues that the claimed invention recites a technical improvement because "the claimed invention is able to prevent, using a predictive model, certain content from being transmitted to one or more user

devices that are excluded from subsequent transmissions of electronic communications." Appeal Br. 17–18. First, the selection of advertisements for presentation using a model based on past advertisement performance is part of the abstract idea, as discussed above. Second, the claim does not recite that some devices receive certain advertisements while other devices do not receive those advertisements. Furthermore, the selection of advertisements for presentation using a model based on past advertisement performance is a marketing or business strategy improvement, not a computing technology improvement. Modeling advertisements to select advertisements is a task that a computer can be used to perform, but it is not an improvement specific to computers themselves. The result-oriented nature of the claim, i.e., the claim recites the resultant features but not some particular technical manner of achieving those features, further supports our determination that the claim does not improve some particular computing technology.

Despite Appellant's reliance on *BASCOM* (Appeal Br. 16–17 (citing *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC* , 827 F.3d 1341 (Fed. Cir. 2016)), the claim here does not improve the technology the way the claims in *BASCOM* did. In *BASCOM*, the claims improved prior art content filtering solutions by making them more dynamic, thus using software to improve the performance of the computer system itself. *BASCOM*, 827 F.3d at 1351. Here, the claim does nothing to improve how electronic content is transmitted; instead, the claim merely adds generic networking capabilities to transmit advertisements selected according to a business strategy.

Nor are we persuaded the claim solves some "Internet-centric problems involving data scarcity potentials in conventional computer-automated predictive analytics systems for web-based campaigns." Appeal Br. 18–19. Although the invention can be used in an online context, the Specification confirms that advertisement selection is not some internet-specific problem. *See* Spec. ¶ 18 ("Advertising campaigns, especially on-line advertising campaigns use combinations of images, titles, bodies and other categories . . . to create advertisements."). Further, data scarcity, i.e., not having enough data, is not a problem particular to computers or the Internet; any modeling based on past information requires some amount of past information. Moreover, the claim does not recite any solution to data scarcity. The claim only provides a "response to determining a sufficient set of creatives," but does not recite a response to determining an insufficient set of creatives.

Still further, we agree with the Examiner's determination that "activating" the selected advertisements or "deactivating" the unselected advertisements for transmission, as recited in limitations [f]–[g], is insignificant extra-solution activity. Ans. 4–5. The focus of the invention is the creation of an advertising campaign, not the transmission of the campaign. Indeed, the title, the abstract, the summary, and the Specification are predominantly directed to the selection of advertisements. As such, "allowing or preventing network transmission of content" (Reply Br. 4; Appeal Br. 6) is directed to extra-solution activity. In this particular case, such access control to content is insignificant extra-solution activity.

Additionally, none of the remaining indicia of integration listed by the January 2019 Guidance is present in claim 1. For example, the claim does

not recite a particular machine and, instead, generically recites a "computerized method." Nor does the claim recite the "[t]ransformation and reduction of an *article* 'to a different state or thing.'" *Bilski*, 561 U.S. 593, 604 (2010) (emphasis added, alteration in original), *quoted in* MPEP § 2106.05(c). Claim 1's method does not transform a physical object or substance. In this way, the claim is unlike the transformations found in some eligible claims. *See, e.g.*, *Diehr*, 450 U.S. at 184 (a process that transforms rubber).

We, therefore, determine claim 1 is not directed to a specific asserted improvement in technology or otherwise integrated into a practical application and, thus, is directed to a judicial exception.

Step 2B

Next, we determine whether the claim includes additional elements that provide significantly more than the recited judicial exception, thereby providing an inventive concept. *Alice*, 573 U.S. at 221 (quoting *Mayo*, 566 U.S. at 72–73).

The Examiner determines that, both individually and in combination, the additionally recited "computing elements are recited at a high level of generality and only perform generic functions of receiving, manipulating and transmitting information" and, so, "do not amount to significantly more than the abstract idea." Final Act. 4. We agree with the Examiner.

Appellant argues that there is "no evidence establishing that the additional features . . . are well-understood, routine[,] or conventional." Reply Br. 9. Further, Appellant argues "the Specification lack[s] any statement that explicitly characterizes any claim feature as 'conventional.'" Appeal Br. 22.

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We disagree. Appellant's arguments highlight the steps for creating the predictive model and for selecting advertisements for transmission (*see* Appeal Br. 21–23; *see also* Reply Br. 9–11), but those steps are part of the abstract idea, as discussed above. The additionally recited computer-related elements not encompassed by the abstract idea, i.e., the "creative manager system" performing the abstract idea and the "transmission of electronic content," are well-understood, routine, and conventional, according to the Specification. The Specification states that the "creative element selection system based on performance analysis and predictive modeling as described herein may be executed on one or more computer systems" and such computer systems "may be . . . in general any type of computing or electronic device." Spec. ¶¶ 75, 84. As such, the Specification describes that the "creative manager system" is implemented using any generic computing device. Still further, the Specification teaches that the system "support[s] communication via wired or wireless general data networks." Spec. ¶ 81. As such, the Specification describes that the system generically transmits advertisements using well-understood, routine, and conventional network technology. With respect to the Examiner's determination that "activating" the selected advertisements or "deactivating" the unselected advertisements for transmission, as recited in limitations [f]–[g], is insignificant extra-solution activity (Ans. 4–5), Appellant argues that "no record evidence establishes that these limitation are 'well known,' as required under *Berkheimer*" (Reply Br. 6–7 (citing *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018))). We find this argument unpersuasive because Appellant addresses whether the limitations are well-understood,

routine and conventional but does not address the Examiner's determination that the limitations are insignificant extra-solution activity.

We, thus, conclude that claim 1 does not provide an inventive concept because the additional elements recited in claim 1, considered individually and as an ordered combination, do not provide significantly more than the recited judicial exception. Accordingly, claim 1 does not recite patent-eligible subject matter. Because claim 1 is representative of the independent claims, we conclude that independent claims 9 and 15 also do not recite patent-eligible subject matter.

Additionally, although Appellant argues that dependent claims 21, 24, and 26 recite a "particular means for intelligently activating and deactivating content based on a specific manner of simultaneous hypothesis testing" (Appeal Br. 13–14), those limitations further describe, and are part of, the abstract idea discussed above. Further, Appellant has not proffered sufficient evidence or argument to persuade us that any of the limitations in remaining dependent claims 2, 4, 5, 7, 8, 10, 13, 14, 16, and 19, 20, 22, 23, and 25 provide a meaningful limitation that transforms the claims into a patent-eligible application. *See* Appeal Br. 6–23. Therefore, we sustain the rejection of claims 1, 2, 4, 5, 7–10, 13–16, and 19–26 under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter.

Obviousness

Claim 1

Appellant argues the Examiner erred in finding Richardson teaches

determining, by a creative manager system including a storage device and a plurality of modules implemented on one or more computers, whether a set of creatives for a campaign is of a sufficient size to construct a predictive model [and] . . . in

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> response to determining a sufficient set of creatives, . . .
> constructing, by the creative manager system, the predictive
> model,

as recited in claim 1 and similarly recited in claims 9 and 15. Appeal Br. 23–26. Specifically, Appellant argues "Richardson['s] disclosures lack the specific detail of a size determination for a set of creatives for a campaign." Appeal Br. 24. Further, Appellant argues "to the extent that Richardson describes developing an advertisement performance prediction model using different sets of advertisements, the system of Richardson assumes a sufficient dataset of advertisements to generate the advertisement performance prediction model and fails to account for situations where such data is unavailable or insufficient." *Id.* at 25.

We are not persuaded. The Examiner finds (Final Act. 5–6; Ans. 9), and we agree, that Richardson's description of an "advertisement performance prediction model [that] is developed using advertisement features extracted from a sample set" (Richardson ¶ 14) teaches

> determining, by a creative manager system including a storage
> device and a plurality of modules implemented on one or more
> computers, whether a set of creatives for a campaign is of a
> sufficient size to construct a predictive model [and] . . . in
> response to determining a sufficient set of creatives, determining
> an optimal subset of creatives . . . constructing, by the creative
> manager system, the predictive model.

Richardson explains that its sample set is provided by a "sample set identifying component . . . configured to identify a predetermined number (e.g., one million) or portion (e.g., 25%) of existing advertisements having observed advertisement information item(s) and/or advertisement performance measures." Richardson ¶ 32.

Appellant's argument that Richardson does not "detail . . . a size determination for a set of creatives for a campaign" (Appeal Br. 24) does not address Richardson's sample set, used to create Richardson's performance prediction model. That is, Richardson's sample set teaches "a set of creatives . . . of a sufficient size to construct a predictive model[6]" as recited in claim 1, when the sample set identifies one million or 25% of existing advertisements. Appeal Br. 32. Further, Appellant's argument that Richardson "fails to account for situations where such data is unavailable or insufficient" (Appeal Br. 25) is not commensurate with the scope of the claim because the claim does not recite situations in which data is unavailable or insufficient.

Accordingly, we are not persuaded the Examiner erred in finding Richardson teaches

> determining, by creative manager system including a storage device and a plurality of modules implemented on one or more computers, whether a set of creatives for a campaign is of a sufficient size to construct a predictive model [and] in response to determining a sufficient set of creatives . . . constructing, by the creative manager system, the predictive model,

as recited in claim 1 and similarly recited in claims 9 and 15.

Further, Appellant contends the Examiner erred in finding Chang teaches "determining, by the creative manager system, the optimal subset of

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[6] We also note that the claim fails to clearly define the metes and bounds of "a set of creatives . . . of sufficient size to construct a predictive model." According to the claim language, *any* predictive model that is constructed would necessarily include "a set of creatives . . . of a sufficient size," and, so, it is unclear how any predictive model would not necessarily include "a set of creatives . . . of a sufficient size." Appeal Br. 32.

creatives based on the collected performance data and the predicted performance data, the optimal subset of creatives including one or more creatives from each of the initial subset and the additional creatives," where the "additional creatives [are] from the set of creatives that are not in the initial subset," as recited in claim 1 and similarly recited in claims 9 and 15. Appeal Br. 26–27; Reply Br. 11–13. Specifically, Appellant argues Chang

> fail[s] to teach any requirement on the source of the creatives used in a campaign, let alone that a set of optimal creatives determined with a predictive model includes both a creative *that was used to generate the predict model* and a creative *that was not used to generate the predictive model*.

Appeal Br. 27; Reply Br. 11.

We are not persuaded. The Examiner finds (Final Act. 5–6), and we agree, that Richardson's "sample set," which is used to develop an advertisement performance prediction model (Richardson ¶ 14), teaches "an initial subset from the set of creatives." The Examiner further finds (Final Act. 5–6), and we agree, that Richardson's use of that performance prediction model to "estimate expected advertisement performance . . . from an advertisement that was not included in the sample set" (Richardson ¶ 14) teaches "additional creatives from the set of creatives that are not in the initial subset," as claimed.

Appellant's argument that Chang fails to teach "the source of the creatives used in a campaign, let alone that a set of optimal creatives determined with a predictive model includes both a creative *that was used to generate the predict model* and a creative *that was not used to generate the predictive model*" (Appeal Br. 27) does not address the Examiner's reliance on Richardson to teach those features. Accordingly, we are not persuaded

the Examiner erred in finding the combination of Richardson and Chang teaches "determining, by the creative manager system, the optimal subset of creatives based on the collected performance data and the predicted performance data, the optimal subset of creatives including one or more creatives from each of the initial subset and the additional creatives," where the "additional creatives [are] from the set of creatives that are not in the initial subset," as recited in claim 1 and similarly recited in claims 9 and 15.

Still further, Appellant contends the Examiner erred in finding Chang teaches

> updating, by the creative manager system, creative control data for a creatives server, the creative control data indicating an active status of the optimal subset of creatives and an inactive status of the creative in the set of creatives that is not in the optimal subset of creatives, wherein updating the creative control data causes the creatives server to remove the creative with the inactive status from a subsequent transmission of electronic content and perform the subsequent transmission of electronic content with the optimal subset of creatives included in the subsequent transmission,

as recited in claim 1 and similarly recited in claims 9 and 15. Appeal Br. 27–28. Specifically, Appellant argues Chang "lack[s] any description of a creative manager system or a creatives server having creative control data." *Id.* at 28.

We are not persuaded. The Examiner finds (Final Act. 5–6), and we agree, Richardson's system in which "advertisement[s] may be displayed in accordance with the advertisement[s'] ranking" teaches "a creative manager system" which transmits selected advertisements based on "creative control data" (Richardson ¶¶ 14, 80 ("the advertisement is presented based on the advertisement ranking determined at block 418.")). The Examiner further

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finds, and we agree, that Chang teaches "withdraw[ing] creatives that are no longer relevant or perform poorly and introduc[ing] new creatives" in advertising campaigns. Chang 1:46–50.

Appellant's argument addressing Chang alone (Appeal Br. 27–28) does not address the Examiner's finding that the combination of Richardson and Chang teaches the disputed limitation. Even if Chang does not teach a creative manager system, Richardson's system, implemented as a computer server, manages the transmission of selected advertisements based on an advertisement's ranking. Richardson ¶¶ 14, 80; *see id.* Fig. 2. Moreover, in light of Richardson teaching of a computer server that selects advertisements to transmit and Chang's teaching that advertisements can be removed or added to advertising campaigns, Appellant has not presented persuasive argument or evidence that it would been "uniquely challenging or difficult for one of ordinary skill in the art" to use creative control data to include or remove advertisements from transmission. *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007). Accordingly, we are not persuaded the Examiner erred in finding the combination of Richardson and Chang teaches

> updating, by the creative manager system, creative control data for a creatives server, the creative control data indicating an active status of the optimal subset of creatives and an inactive status of the creative in the set of creatives that is not in the optimal subset of creatives, wherein updating the creative control data causes the creatives server to remove the creative with the inactive status from a subsequent transmission of electronic content and perform the subsequent transmission of electronic content with the optimal subset of creatives included in the subsequent transmission,

as recited in claim 1 and similarly recited in claims 9 and 15. Therefore, we sustain the Examiner's obviousness rejection of claims 1, 9, and 15.

Claims 21, 24, and 26

Appellant contends the Examiner erred in finding Richardson teaches

> performing simultaneous hypothesis testing using the predicted performance data to measure confidence levels of predicted comparison results for each creative of the subset of creatives and the additional creatives, the predicted comparison results including a comparison of the collected performance data retrieved from the storage device and associated with the subset of creatives to the predicted performance data associated with the additional creatives [not in the initial subset used to construct the predictive model],

as recited in claim 21 and similarly recited in claims 24 and 26. Appeal Br. 29; Reply Br. 13–14. Specifically, Appellant argues Richardson "teaches comparing predicted performance data (i.e., 'estimated expected advertisement performance') to ***subsequent*** actual performance data ***generated after the predicted performance data has been estimated with a model***" rather than comparing "predicted performance data to collected performance data that was used to ***generate the predictive model***." Appeal Br. 29; Reply Br. 13.

We disagree with Appellant. The Examiner finds (Final Act. 13), and we agree, Richardson's "estimate[d] advertisement performance" used to "rank the advertisement with respect to a plurality of other advertisements" (Richardson ¶ 14) teaches "a comparison of the collected performance data retrieved from the storage device and associated with the subset of creatives to the predicted performance data associated with the additional creatives." In particular, Richardson's estimated expected advertisement performance is based on "advertisement features extracted from a sample set," the sample

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set created from "existing advertisements having observed advertisement information item(s)." Richardson ¶¶ 14, 32. As such, Richardson's sample set teaches "collected performance data." Further, that sample set is compared with "an advertisement that was not included in the sample set" in order to estimate expected advertisement performance for that advertisement. *Id.* Richardson then ranks, i.e., performs a comparison of the performance of the advertisements in the sample set and the advertisements not in the sample set. Richardson ¶ 81. Accordingly, we are not persuaded the Examiner erred in finding Richardson teaches

> performing simultaneous hypothesis testing using the predicted performance data to measure confidence levels of predicted comparison results for each creative of the subset of creatives and the additional creatives, the predicted comparison results including a comparison of the collected performance data retrieved from the storage device and associated with the subset of creatives to the predicted performance data associated with the additional creatives [not in the initial subset used to construct the predictive model],

as recited in claim 21 and similarly recited in claims 24 and 26.

Further, Appellant contends the Examiner erred in finding Chang teaches

> automatically deactivating one or more creatives of the initial subset and the additional creatives having predicted comparison results below a predetermined confidence level threshold; and modifying the initial subset by replacing the deactivated creatives with replacement creatives of the set of creatives to form the optimal subset of creatives, the replacement creatives including creatives having predicted comparison results meeting the predetermined confidence level threshold,

as recited in claim 21 and similarly recited in claims 24 and 26. Appeal Br. 30–31; Reply Br. 14–15. Specifically, Appellant argues that the degree

of confidence described by Chang does not have "any relationship to comparison results between collected performance data ***used to generate a predictive model*** and predicted performance data generated by the predictive model." Appeal Br. 30–31; Reply Br. 15.

We are not persuaded the Examiner erred. As discussed above, we agree with the Examiner's finding that Richardson teaches comparing results from collected performance data used to generate a predictive model with results from predicted performance data generated by the predictive model. Final Act. 5–6, 13. Further, we also agree with the Examiner (*id.* at 14; Ans. 11–12) that Chang describes "confidence intervals around the relative impact on advertisement performance," e.g., a "narrow confidence interval suggests a high degree of confidence in the estimate and allows for more aggressive action" and "a low degree of confidence [that] advocates a more cautious approach to, or delaying of any decision-making" (Chang 3:21–61).

Appellant's argument does not address the Examiner's combination of Richardson and Chang and instead inappropriately attacks Chang individually. *In re Keller*, 642 F.2d 413, 426 (CCPA 1981). Appellant argues Chang does not teach that its confidence level has a "relationship" to comparison results between collected performance data used to generate a predictive model and predicted performance data generated by the predictive model (Appeal Br. 30–31; Reply Br. 15), but the Examiner relies on Richardson, teaching comparison results between collected performance data used to generate a predictive model and predicted performance data generated by the predictive model, in combination with Chang to teach that feature (*see* Final Act. 13–14). Accordingly, we are not persuaded the Examiner erred in finding the combination of Richardson and Chang teaches

automatically deactivating one or more creatives of the initial subset and the additional creatives having predicted comparison results below a predetermined confidence level threshold; and modifying the initial subset by replacing the deactivated creatives with replacement creatives of the set of creatives to form the optimal subset of creatives, the replacement creatives including creatives having predicted comparison results meeting the predetermined confidence level threshold,

as recited in claim 21 and similarly recited in claims 24 and 26. Therefore, we sustain the Examiner's obviousness rejection of claims 21, 24, and 26.

Claims 2, 4, 5, 7, 8, 10, 13, 14, 16, 19, 20, 22, 23, and 25

Appellant does not argue separate patentability for dependent claims 2, 4, 5, 7, 8, 10, 13, 14, 16, 19, 20, 22, 23, and 25, which depend directly or indirectly from claims 1, 9, and 15. *See* Appeal Br. 23–31. Accordingly, for the reasons set forth above, we sustain the Examiner's obviousness rejection of claims 2, 4, 5, 7, 8, 10, 13, 14, 16, 19, 20, 22, 23, and 25.

CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 2, 4, 5, 7–10, 13–16, 19–26	101	Eligibility	1, 2, 4, 5, 7–10, 13–16, 19–26	
1, 2, 4, 7–10, 13–16, 19–26	103(a)	Richardson, Chang	1, 2, 4, 7–10, 13–16, 19–26	
5	103(a)	Richardson, Chang, Lin	5	
Overall Outcome			1, 2, 4, 5, 7–10, 13–16, 19–26	

TIME PERIOD FOR RESPONSE

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