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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ROBERT CRITES, MUKUL GOYAL, GLEN OSTERHOUT,
RUBY KENNEDY, and FRANCISCO JAUFFRED

Appeal 2016-007855
Application 12/048,609
Technology Center 3600

Before MURRIEL E. CRAWFORD, ANTON W. FETTING, and
JOSEPH A. FISCHETTI, *Administrative Patent Judges*.

FETTING, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE¹

Robert Crites, Mukul Goyal, Glen Osterhout, Ruby Kennedy, and
Francisco Jauffred (Appellants)² seek review under 35 U.S.C. § 134 of a
Final Rejection of claims 69–110, the only claims pending in the application

¹ Our decision will make reference to the Appellants' Appeal Brief ("App. Br.," filed June 29, 2015) and Reply Brief ("Reply Br.," filed August 15, 2016), and the Examiner's Answer ("Ans.," mailed June 14, 2016), and Final Action ("Final Act.," mailed January 26, 2015).

² The real party in interest is IBM Corporation.

on appeal. This is the second time this application has come before us. We issued a decision in a prior appeal on April 16, 2013. The claims have been amended in the intervening prosecution. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).

The Appellants invented a form of combinatorial optimization.
Specification 1:20–21.

An understanding of the invention can be derived from a reading of exemplary claim 69, which is reproduced below:

69. A computer-implemented method for combinatorial optimization, comprising:

retrieving a list of combinations of offers that pass a first set of rules belonging to a first category of rules;

selecting, by one or more processors, a first combination of offers from the list;

determining, by the one or more processors, whether the first combination of offers passes a second set of rules belonging to a second category of rules; and

modifying, based upon the first combination of offers violating one or more rules of the second set of rules, an offer in the first combination of offers to generate a second combination of offers that complies with the second set of rules, wherein

the offers in the list of combinations of offers having assigned scores associated with sending the offers to proposed contacts, and

the first category of rules is different than the second category of rules.

The Examiner relies upon the following prior art:

Chiang US 2005/0289000 A1 Dec. 29, 2005

Claims 69–110 stand rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

Claims 69–110 stand rejected under 35 U.S.C. § 102(b) as anticipated by Chiang.

ISSUES

The issues of eligible subject matter turn primarily on whether the claims recite more than abstract conceptual advice of what a computer is to provide without implementation details.

The issues of novelty matter turn primarily on whether Chiang describes modifying offers.

FACTS PERTINENT TO THE ISSUES

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

Facts Related to the Prior Art

Chiang

01. Chiang is directed to optimizing transactions to customers from a list of transactions. The method includes generating a frequency distribution of scores for each offer based on at least one constraint, determining a score threshold based on the frequency distribution of scores, and adding or removing transactions from the list of transactions based on the score threshold. Chiang para. 5.

02. Chiang describes several features that may be provided. The at least one constraint may be one of a budget constraint, an offer constraint and a capacity constraint. The invention may also include generating a budget

frequency distribution based on a budget ratio; determining a budget threshold based on the budget frequency distribution; and adding or removing transactions from the list of transactions based on the budget threshold. The budget ratio may include a cost and a score. The invention may include modifying the frequency distribution of scores based on interactions between transactions. The scores may include a profitability value. Chiang para. 8.

03. Chiang describes a computer system that includes automated campaign management software that includes contact optimization software that prioritizes offers sent to multiple contacts based on given criteria. The contact optimization software provides a streamlined technique that should execute faster than linear programming solutions, and which can find an optimal solution if there are no capacity limits (e.g., on the number of customers per offer, number of offers that can be sent on a given channel, or budget/resource constraints), and can find a nearly optimal solution otherwise. Chiang para. 29.

04. Chiang describes contact optimization software executing a core contact optimization process that selects an optimal set of offers to send to each customer. By optimal is meant that the offers to send are selected to maximize the specified objective function/scores (e.g., profit) and possibly stay within a budget, while satisfying any given constraints and not violating any rules. For example, it might actually be more profitable to make four contacts with a particular customer. But, the maximum contacts allowed for the customer may be three contacts due to budget or other constraints. Within the constraints given the contact optimization process selects the most profitable combination of offers for each customer. The contact

optimization process proceeds on a customer-by-customer basis. Chiang para. 45.

05. Chiang describes this process being run for each customer individually. The core contact optimization process for each customer, filters out invalid offer combinations and orders remaining offers by the offer score (e.g., expected profit). The process represents remaining offers as a bit string and generates an initial proposed solution that is checked against all (M,S) type constraints. If all rules and constraints are satisfied, the proposed solution is accepted for the customer and the process evaluates the next customer. The contact optimization software executes an alternative generation process as set out in FIG. 5 whenever constraints of the type (M,S) are violated by a proposed solution for a given customer. Chiang para. 46.

06. Referring to FIG. 5, Chiang describes the core contact optimization process calling an alternative generation process that generates one or more alternative solutions if the current solution being evaluated violates some rule or constraint. The alternative generation process turns on new bits that will be on in all of the alternative solutions generated. The alternative generation process generates alternative solutions to maximize the objective function (e.g., in order of profitability), and performs an ordered merge of the new alternatives with the original list of alternatives. The merge essentially interleaves the alternatives with the original list as appropriate to retain the overall profitability order. That is, the alternative generation process 80 generates new alternatives in the order of profitability and merges them into an alternative list retaining the profitability order. Chiang para. 53.

07. Chiang describes using processes in a sensitivity analysis to provide the user with a better understanding of the impact of certain decisions. Chiang describes using table 510 and graph 520 (FIG. 15) to make key management decisions about spending additional resources based on changes in parameters (e.g., transactions, budget, offers, capacity) to measure the sensitivity of these changes to other parameters. For example, if a customer had a fixed budget of \$1 million, a sensitivity analysis would measure the impact of the optimization if the user included or excluded additional transactions. Chiang paras. 116–118.

ANALYSIS

Claims 69–110 rejected under 35 U.S.C. § 101 as directed to non–statutory subject matter

Method claim 69 recites retrieving a list, selecting data from the list, determining whether the selected data passes rules, modifying some of the selected data based on a rule violation to generate a second set of data. Thus, claim 69 recites receiving and selecting data, applying decision criteria, and modifying data based on the application of the criteria. The wherein clause includes no steps, but only characterizes the data and rules. None of the limitations recite implementation details for any of these steps, but instead recite functional results to be achieved by any and all possible means. Data reception, analysis and modification are all generic, conventional data processing operations to the point they are themselves concepts awaiting implementation details. The sequence of data reception-analysis-modification is equally generic and conventional. The ordering of the steps is therefore ordinary and conventional. The remaining claims

merely describe decision criteria and data parameters, with no implementation details.

The Supreme Court

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

Alice Corp., Pty. Ltd. v CLS Bank Intl, 134 S.Ct. 2347, 2355 (2014) (citing *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012)).

To perform this test, we must first determine whether the claims at issue are directed to a patent-ineligible concept. The Examiner finds the claims directed to selecting advertisements, which is a fundamental practice. Final Act. 2.

Although the Court in *Alice* made a determination as to what the claims were directed to, we find that this case’s claims themselves and the Specification provide enough information to inform one as to what they are directed to.

The preamble to claim 69 recites that it is a method for combinatorial optimization. The steps in claim 69 result in modifying a set of data representing a combination of offers. The Specification at 1:9–10 recites

that the invention relates to contact stream optimization (CSO), and more particularly to determining assignments of offers to customers for a marketing campaign, and at 1:20–21 recites that the invention is for combinatorial optimization. Thus, all this evidence shows that claim 69 is directed to optimizing a set of offers to customers, i.e. selecting advertisements. This is consistent with the Examiner’s finding.

It follows from prior Supreme Court cases, and *Bilski* (*Bilski v Kappos*, 561 U.S. 593 (2010)) in particular, that the claims at issue here are directed to an abstract idea. Like the risk hedging in *Bilski*, the concept of selecting advertisements is a fundamental business practice long prevalent in our system of commerce. The use of selecting advertisements is also a building block of ingenuity in marketing. Thus, selecting advertisements, like hedging, is an “abstract idea” beyond the scope of §101. *See Alice Corp. Pty. Ltd.* at 2356.

As in *Alice Corp. Pty. Ltd.*, we need not labor to delimit the precise contours of the “abstract ideas” category in this case. It is enough to recognize that there is no meaningful distinction in the level of abstraction between the concept of risk hedging in *Bilski* and the concept of selecting advertisements at issue here. Both are squarely within the realm of “abstract ideas” as the Court has used that term. *See Alice Corp. Pty. Ltd.* at 2357.

Further, claims involving data collection, analysis, and display are directed to an abstract idea. *Elec. Power Grp. v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016) (holding that “collecting information, analyzing it, and displaying certain results of the collection and analysis” are “a familiar class of claims ‘directed to’ a patent ineligible concept”); *see also In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016);

FairWarning IP, LLC v. Iatric Sys., Inc., 839 F.3d 1089, 1093–94 (Fed. Cir. 2016). Claim 69, unlike the claims found non-abstract in prior cases, uses generic computer technology to perform data retrieval, analysis, and modification and does not recite an improvement to a particular computer technology. *See, e.g., McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314–15 (Fed. Cir. 2016) (finding claims not abstract because they “focused on a specific asserted improvement in computer animation”). As such, claim 69 is directed to the abstract idea of receiving, analyzing, and modifying data.

The remaining claims merely describe decision criteria and data parameters. We conclude that the claims at issue are directed to a patent-ineligible concept.

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

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

Alice Corp. Pty. Ltd., 134 S.Ct. at 2358 (citations omitted).

“[T]he relevant question is whether the claims here do more than simply instruct the practitioner to implement the abstract idea [] on a generic computer.” *Alice Corp. Pty. Ltd.*, 134 S.Ct. at 2359. They do not.

Taking the claim elements separately, the function performed by the computer at each step of the process is purely conventional. Using a computer to retrieve, select, and apply decision criteria to data and modify the data as a result amounts to electronic data query and retrieval—one of the most basic functions of a computer. The wherein clause is not a step, but a recitation of how the data and rules are characterized, *viz.* an interpretation, which is perceptible only to the human mind.³ All of these computer functions are well-understood, routine, conventional activities previously known to the industry. *See Elec. Power Grp. v. Alstom S.A., supra.* Also see *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303, 1316 (Fed.Cir.2011)(“Absent a possible narrower construction of the terms “processing,” “receiving,” and “storing,” . . . those functions can be achieved by any general purpose computer without special programming”). In short, each step does no more than require a generic computer to perform generic computer functions. As to the data operated upon, “even if a process of collecting and analyzing information is ‘limited to particular content’ or a particular ‘source,’ that limitation does not make the collection and analysis

³ In particular, we note that the limitation that “the first category of rules is different than the second category of rules” refers to the categories and not the rules per se. Thus it is the perception of categories that is recited as being different.

other than abstract.” *SAP America Inc. v. InvestPic LLC*, No. 2017-2081, 2018 WL 2207254 (Fed. Cir. May 15, 2018).

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

Viewed as a whole, Appellants’ method claims simply recite the concept of selecting advertisements as performed by a generic computer. To be sure, the claims recite doing so by advising one to test offers against criteria and modify some if the test fails so they then pass other criteria. But this is no more than abstract conceptual advice on the parameters for such selecting advertisements and the generic computer processes necessary to process those parameters, and do not recite any particular implementation.

The method claims do not, for example, purport to improve the functioning of the computer itself. Nor do they effect an improvement in any other technology or technical field. The Specification spells out different generic equipment and parameters that might be applied using this

concept and the particular steps such conventional processing would entail based on the concept of selecting advertisements under different scenarios. They do not describe any particular improvement in the manner a computer functions. Instead, the claims at issue amount to nothing significantly more than an instruction to apply the abstract idea of selecting advertisements using some unspecified, generic computer. Under our precedents, that is not enough to transform an abstract idea into a patent-eligible invention. *See Alice Corp. Pty. Ltd.* at 2360.

As to the structural claims, they are no different from the method claims in substance. The method claims recite the abstract idea implemented on a generic computer; the system claims recite a handful of generic computer components configured to implement the same idea. This Court has long “warn[ed] ... against” interpreting § 101 “in ways that make patent eligibility ‘depend simply on the draftsman’s art.’”

Alice Corp. Pty. Ltd. at 2360.

We adopt the Examiner’s findings and analysis from Final Action and Answer, and reach similar legal conclusions. We now turn to the Reply Brief arguments.

We are not persuaded by Appellants argument that the Examiner erred by misrepresenting the holding of *Ultramerical v Hulu*, 772 F.3d 709 (Fed. Cir. 2014). Reply Br. 2–4.

Appellants’ asserted claims are analogous to claims found ineligible in *Ultramerical*. The ineligible claims in *Ultramerical* recited “providing [a] media product for sale at an Internet website;” “restricting general public access to said media product;” “receiving from the consumer a

request to view [a] sponsor message;” and “if the sponsor message is an interactive message, presenting at least one query to the consumer and allowing said consumer access to said media product after receiving a response to said at least one query.” 772 F.3d at 712. Similarly, Appellants’ asserted claims recite retrieving, selecting, determining, and modifying advertising data. This is precisely the type of activity found ineligible in *Ultramercial*.

As to the holding, the court stated “we do not agree with *Ultramercial* that the addition of merely novel or non-routine components to the claimed idea necessarily turns an abstraction into something concrete. In any event, any novelty in implementation of the idea is a factor to be considered only in the second step of the Alice analysis.” 772 F.3d at 715. Thus, the addition of advice to test data against criteria and modify the data accordingly to meet other criteria as claimed is analyzed at Alice step 2, and even there it does not turn an abstraction into something concrete

We are not persuaded by Appellants’ argument that the Examiner appears to be of the opinion that any invention “relating to” the concepts of “advertising, marketing and sales” is unpatentable. Reply Br. 4. The Examiner finds instead that a claim directed to the concepts of “advertising, marketing and sales” fails the first *Alice* step, which is so, as we find *supra*. The second step remains to be performed before a finding of unpatentability.

We are not persuaded by Appellants’ argument that

[t]he phrase “directed to,” as used by the Supreme Court, does not mean “implicate in some manner” (or “relating to” using the parlance of the Examiner). To be “directed to” an “abstract idea” means that the claim implements the abstract idea without anything substantially more. See Alice (slip op., at 14) (“the relevant question is whether the claims here do more than

simply instruct the practitioner to implement the abstract idea of intermediated settlement on a generic computer”).

Reply Br. 4.

To be “directed to” an “abstract idea” means that the claim is related to and results in the abstract idea. We find the intrinsic evidence shows this is so *supra*. We find no case law to support Appellants’ contention that there must be nothing substantially more in the first Alice step. The *Alice* quote Appellants cite refers to the second *Alice* step, whether the claims recite an inventive concept, and not to the first step regarding what the claim is directed to.

We are not persuaded by Appellants’ argument that

Although claim 69 recites “selecting, by one or more processors, a first combination of offers from the list,” this only constitutes 14 words of the 139 words found in the body of the claim. The additional 125 words do more than simply instruct the practitioner to “select[] offers to present to consumers.” By failing to consider the impact of these additional 125 words on the claimed invention, the Examiner has committed reversible error by not considering the claimed invention as a whole.

Reply Br. 5.

The Examiner does consider the entire claim and finds that “the limitations are merely instructions to implement the abstract idea on a computer and require no more than a generic computer to perform generic computer functions that are well-understood, routine and conventional activities previously known to the industry.” Final Act. 3. As we find *supra*, although those “additional 125 words” recite selecting advertisements by advising one to test offers against criteria and modify some if the test fails so they then pass other criteria, this is no more than abstract conceptual

advice on the parameters for such selecting advertisements and the generic computer processes necessary to process those parameters, and do not recite any particular implementation.

We are not persuaded by Appellants' argument that "Appellants are unaware of any case law that states that all claims involving 'improvement[s] to sales and marketing behavior or act' are necessarily claims directed to abstract ideas." Reply Br. 6. The first *Alice* test looks to what claims are directed to, not what claims involve. Thus, the test looks to what the claims achieve, not just ancillary concepts that are involved.

We are not persuaded by Appellants' argument that

While the Examiner makes a passing reference to Alice (see last paragraph on page 9 of the Fourth Office Action) the Examiner never mentions the "economic concepts identified in Alice." As such, the Examiner has again erred by failing to "ensure that the rejection is reasonably tied to the facts of the case,"

Reply Br. 6.

Alice refers to fundamental practices as being essentially conceptual ideas. In *Alice*, the fundamental practice was economic, and in the instant case the fundamental practice is commercial and in advertising in particular. In both instances, the practices are so fundamental to business practice as to be essentially conceptual ideas.

Claims 69–110 rejected under 35 U.S.C. § 102(b) as anticipated by Chiang

We are persuaded by Appellants' argument that

As discussed in paragraph [0046] of Chiang, "contact optimization software 32 executes an alternative generation process 80 as set out in FIG. 5 whenever constraints of the type (M,S) are violated by a proposed solution for a given

customer.” However, this teaching does not correspond to the claimed “modifying ... an offer in the first combination of offers.” Instead, as discussed in paragraph [0053] of Chiang, the alternative generation process 80 “generates one or more alternative solutions.” These alternative solutions are then merged/interleaved with the original list. Notably, Chiang does not describe an offer in the first combination offers being modified, as claimed. Instead, Chiang teaches creating new alternatives. Thus, Chiang fails to identically disclose the claimed invention, as recited in claim 69, within the meaning of 35 U.S.C. § 102.

App. Br. 17.

First, we note that although this limitation was present in the claims before us in the prior appeal, this was not raised as an issue at that time, and the claims have since been amended, and so is not subject to issue preclusion. Second, we note that Appellants specifically argue this in the context of anticipation. We are not placed in a position to consider the claims under an obviousness analysis. Third, as a matter of claim construction, claim 69 recites “modifying . . . an offer in the first combination of offers.” This combination of offers is in turn data existing within a retrieved list. Thus the modification is to existing data, not merely to the ideas expressed in the data, and so original generation of a similar offer is not within the scope of modifying an offer.

As to the issue at hand, Appellants are correct that the only instance Examiner cites of modifying data is in modifying parameters for a sensitivity analysis, not modifying an existing offer. FF 7. The Examiner prefaces this with Chiang’s discussion of offer process flow. FF 4–5. The Examiner finds that “the rules and parameters for offers, are part of the offer, so the offer is modified in the combination of offers until the best offer is selected for display.” Ans. 5. As Appellants contend, Chiang’s process generates

new offers instead of modifying existing offers. FF 6. The modifications Examiner refers to are modifications to sensitivity analysis parameters, and not to offers. The analysis may then generate offers as described *supra*, but this would be generation rather than modification of offers.

CONCLUSIONS OF LAW

The rejection of claims 69–110 under 35 U.S.C. § 101 as directed to non–statutory subject matter is proper.

The rejection of claims 69–110 under 35 U.S.C. § 102(b) as anticipated by Chiang is improper.

DECISION

The rejection of claims 69–110 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) (2011).

AFFIRMED