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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte DENNIS S. FERNANDEZ and IRENE HU[1]

Appeal 2016–006536
Application 12/113,042
Technology Center 3600

Before HUBERT C. LORIN, ANTON W. FETTING, and BIBHU R. MOHANTY, *Administrative Patent Judges.*

FETTING, *Administrative Patent Judge.*

DECISION ON APPEAL

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[1] The real party in interest is Mr. Dennis S. Fernandez. App. Br. 3.

STATEMENT OF THE CASE[2]

Dennis S. Fernandez and Irene Hu (Appellants) seek review under 35 U.S.C. § 134 of a final rejection of claims 1–3, the only claims pending in the application on appeal. We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).

The Appellants invented distributed client-server software for adaptive direct group transaction. Specification 2:3–4.

An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below (bracketed matter and some paragraphing added).

> 1. Micro–sale transaction method for sensor–based interactive digital television (IDTV) system comprising steps:
>
> [1] providing user response to an IDTV group analysis overlay by a bio– or electro/mechanical–sensor using one or more microprocessor or embedded controller;
>
> [2] hierarchically grouping IDTV user transactions
>
> collectively in one or more IDTV user transaction sub–group or super–group
>
> by the IDTV group analysis overlay
>
> comprising server–executable context–mapping overlay software that automatically couples to
>
> access one or more user IDTV sensor according to one or more sensed IDTV user response, search, query or other IDTV user transaction attribute;

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[2] Our decision will make reference to the Appellants' Appeal Brief ("App. Br.," filed January 12, 2016) and Reply Brief ("Reply Br.," filed June 17, 2016), and the Examiner's Answer ("Ans.," mailed May 11, 2016), and Final Action ("Final Act.," mailed September 23, 2015).

> [3] processing IDTV user transaction attribute adaptively by comparing one or more IDTV user usage pattern, location, timing, demographic, race, ethnicity, medical insurance coverage, age, sex family, serial or model number, multimedia play–back capacity, entertainment preference, usage pattern, budget allowance, schedule availability, or other IDTV user transaction attribute to one or more IDTV user attribute sub–group or super–group attribute database registry via said overlay software;
>
> [4] adaptively modifying one or more sub–group or super–group attribute database registry by said overlay software when said overlay software determines one or more IDTV user transaction attribute not to be classifiable in one or more IDTV user transaction sub–group or super–group;
>
> and
>
> [5] transacting electronically and adaptively one or more micro–sale with an IDTV user in response to the user search, query or sensor response provided to an IDTV group analysis overlay.

App. Br. 28 (Claims Appendix).

The Examiner relies upon the following prior art:

Maa	US 5,818,935	Oct. 6, 1998
Aggarwal	US 6,714,975 B1	Mar. 30, 2004

Claims 1–3 stand rejected under 35 U.S.C. § 112(a) as lacking a supporting written description within the original disclosure.

Claims 1–3 stand rejected under 35 U.S.C. § 101 as directed to non–statutory subject matter.

Claims 1–3 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Maa and Aggarwal.

ISSUES

The issues of written description matter turn primarily on whether the Specification sufficiently describes how a registry is adaptively modified to show possession of the genus.

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 obviousness turn primarily on whether the art applied describes hierarchically grouping IDTV user transactions collectively . . . by the IDTV group analysis overlay.

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

Maa

01. Maa is directed to a video system utilizing a video signal carrying embedded Internet access information. Maa 1:4–6.

02. TV content producers can make use of the Internet information pointers to obtain instant, on-line feedback from TV viewers by formatting a URL that is designed for user feedback into an Internet information pointer. The content producers can also create web contents related to their popular video programs, TV celebrities and stars, and format these URLs into Internet

information pointers to be transported with their video program to enhance viewers' loyalty to their video program. This, of course, can be used in conjunction with on-line shopping and advertisement. TV game show producers can also use Internet information pointers to direct TV viewers to pertinent URLs to play on-line games through Internet connection. Maa 19:32–45.

Aggarwal

03. Aggarwal is directed to dynamically assigning advertisements to web pages according to self-learned user information. Aggarwal 1:10–12.

04. A self-learning data collector 130 is used to collect click self-learning data 145 stored in memory 115. A self-learning analyzer 140 analyzes the self-learning data 145 and generates even more refined self-learning data 145. This refined data is used by a self-learning scheduler 150 to create the advertising assignments in real-time. Aggarwal 5:20–37.

05. Users are classified into user groups based upon one or more user characteristics. Preferably, a spatial clustering algorithm using either demographic information or using IP address identification together with the self-learning data, e.g. user-based click ratios or traversal path patterns, collected by self-learning data collector 130, is utilized. Each of these groups may be treated distinctly, and may be further subdivided into subgroups based upon the time of the day of the request. Aggarwal 5:49–57.

06. Self-learning data based on click/exposure (or "c/e") ratios for each user group is accumulated. In step 320, the self-learning analyzer 140 is used to generate probabilistic assignment data for each user group, and this data is collected by the self-learning data collector 130. Finally, in step 330, the self-learning scheduler 150 uses the self-learning data to create the real-time dynamic slot-selection, when a client request is received. Aggarwal 5:58–65.

07. The clients, or users, are preferably clustered by two different methods: demography-based and user click-based. The demography-based method, a preferred embodiment of which is illustrated in FIG. 4a, is only useful for sites in which user registration is available (e.g., New York Times) because the collection of multi-dimensional data corresponds to user demography, e.g. age, gender, salary, etc. This multi-dimensional data is used to cluster similar users together. Aggarwal 6:9–30.

08. Aggarwal describes a preferred embodiment of the step of accumulating self-learning data based on click/exposure ratios for each user group. In step 580, the user who delivers a request to the server which is used for clustering is matched with a particular user group which has been previously classified. If the user does not match any particular group, a new group may be created, depending on the clustering algorithm. Next, in step 585, if clustering was implemented by IP address and click/exposure ratio, then the process continues in step 595. If click/exposure ratio data was not collected to cluster, the process continues in step 590 where the user's click/exposure ratios are now collected.

> In step 595, the group's click/exposure ratio data set is updated with the user's click/exposure ratio data. The resulting data may be stored in tables with the different groups on one side and the group click-exposure ratios on the other. Aggarwal 7:60–8:9.

ANALYSIS

Claims 1–3 rejected under 35 U.S.C. § 112(a) as lacking a supporting written description within the original disclosure

The Examiner finds that the claims recite the entire genus of "hierarchically grouping IDTV user transactions collectively in one or more IDTV user transaction sub–group or super–group by the IDTV group analysis overlay" (claim 1) with no description of sufficient species to show possession of the entire genus. Final Act. 4–6; Ans. 2–4.

> [A] generic claim may define the boundaries of a vast genus of chemical compounds, and yet the question may still remain whether the specification, including original claim language, demonstrates that the applicant has invented species sufficient to support a claim to a genus. The problem is especially acute with genus claims that use functional language to define the boundaries of a claimed genus. In such a case, the functional claim may simply claim a desired result, and may do so without describing species that achieve that result. But the specification must demonstrate that the applicant has made a generic invention that achieves the claimed result and do so by showing that the applicant has invented species sufficient to support a claim to the functionally-defined genus.

Ariad Pharmaceuticals v. Eli Lilly and Co., 598 F.3d 1336, 1349 (Fed. Cir. 2010)

> [A] sufficient description of a genus instead requires the disclosure of either a representative number of species falling within the scope of the genus or structural features common to the members of the genus so that one of skill in the art can "visualize or recognize" the members of the genus. We explained that an adequate written description requires a precise definition, such as by structure, formula, chemical name, physical properties, or other properties, of species falling within the genus sufficient to distinguish the genus from other materials. We have also held that functional claim language can meet the written description requirement when the art has established a correlation between structure and function. But merely drawing a fence around the outer limits of a purported genus is not an adequate substitute for describing a variety of materials constituting the genus and showing that one has invented a genus and not just a species.

Id. at 1350. *See also LizardTech, Inc. v. Earth Resource Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005) for holding such written description requirements in electrical and computer technology claims.

Appellants cite Specification para. 0020, p. 7, ln. 4; para. 0053, p. 21, ln. 14 (App. Br. 7), para. 0022, p. 7, ln. 21-22; para. 0048, p. 19, ln. 4 (App. Br. 13), para. 0023, p. 8, ln. 1-2, para. 0049, p. 19, ln. 15-20, para. 0050, p. 20, ln. 6-10 (App. Br. 14), para. 0048, p. 19, ln. 8-13, para. 0051, p. 20, ln. 12-21 (App. Br. 15). None of these portions of the disclosure describes an example or technique for so grouping. As the Examiner correctly finds,

> there is no disclosure of how these functions are performed, as the instant specification generally only includes the result of proper grouping, but does not include sufficient detail of how to accomplish that grouping. The closest specification description, in p. 7, line 21 - p. 8, line 2, generally describes using "equivalence or nonequivalence" as well as "substantial similarity," for classification but provides no guidance as to how this information is used 1) in a multivariable setting, or 2)

> in a group, subgroup, and supergroup setting. Indeed, the specification provides no guidance of what the groups, subgroups, and supergroups comprise, and, therefore also does not provide sufficient guidance of how to incorporate the sensed attributes into such a hierarchical setting.

Ans. 3. Appellants do not cite any portion of the disclosure that does so.

Instead, Appellants contend that

> The specification walks incrementally through the necessary steps of the software program with sufficient detail so one of ordinary skill could program the present invention. Initially, the program determines one or more client attribute so that the client may be classified according to that attribute [Specification para. 0021], so that the "client may be classified by comparing the attribute with another attribute stored in memory to determine equivalence or non-equivalence ... according to predetermined substantial similarity determined there between." [Specification para. 0022]. Group analysis then determines groupings by comparing sensed operational values with their associated values stored in the database. [Specification para. 0048]. Even more precisely, the specification discloses **how to perform the proper group analysis**. The flowcharts of Fig. 4, Fig. 5, and Fig. 6 and their corresponding detailed descriptions provide sufficient detail such that one of ordinary skill in the art could program the disclosed computer to perform the claimed function. Fig. 5 is of particular importance because it details how the groups, subgroups, and super-groups are configured. Examiner stated that "the specification provides no guidance of how the groups, subgroups and super-groups are configured." [Notice of Final Office Action p. 2 and Reply Brief p. 2]. However, the specification states " ... **to perform proper group analysis, subject server 2 … examines database 100 ... to determine 82 existence of any specified super-groups, groups, subgroups, in present network, and particularly search database modules 104, 108 recognize such groupings which includes client to be evaluated for membership." [Specification para. 0049].** The server then compares the

> sensed characteristics of candidate clients "to equivalent data field representations of other pre-registered or tracked client database 100 to determine matching or recognize substantial qualification for set groupings or non-groupings. Group registry 108 provides functional or graphical interface for searching fields for client and sensor attributes." [Specification para. 0050]. Appellant respectfully contends the above detail goes beyond stating mere functionality of the invention, even though Appellant is not necessarily required to do so.

Reply Br. 4–5. We agree with Appellants that the Specification provides sufficient description and examples for assigning transactions to groups. The problem for Appellants is that the sole support for the recited "adaptively modifying one or more sub-group or super-group attribute database registry by said overlay software when said overlay software determines one or more IDTV user transaction attribute not to be classifiable in one or more IDTV user transaction sub-group or super-group" is "[o]ptionally, to provide network system client grouping scalability, when candidate client is determined not to be classifiable as analyzed, subject server 2 may modify group registry 108 to define set changes and create new super-group, group, or sub-group, as required by subject server" (Specification 21:1–4). This does not describe how such modification occurs. Although one of ordinary skill would likely already know the various implementations for altering the data structure underlying such a registry, the real issue is how one of ordinary skill would know when to decide such a modification was necessary and how to define such a super-group, group, or sub-group. As the claim is replete with the modifier "adaptively," and the title of the Specification begins with the word "adaptive," it is this adaptation that defines the novelty of the invention.

There is no description as to how such adaptation of the registry that indexes the data is performed.

Claims 1–3 rejected under 35 U.S.C. § 101 as directed to non–statutory subject matter

The Examiner finds

> Claims 1-3 are directed to the abstract idea of hierarchically grouping user transactions based on various factors and modifying the grouping for transaction attributes not classifiable in existing groups. *See Cyberfone Systems v. CNN Interactive Group* [558 Fed.Appx. 988 (Fed. Cir. 2016)(non-precedential)], finding categorical data storage directed to an abstract idea. The claim(s) does/do not include additional elements that are sufficient to amount to significantly more than the judicial exception because the claimed IDTV and sensors operate as a conventional computing apparatus, and the transacting electronically and providing user response to an analysis server constitute insignificant data gathering and transmission. *See Ultramercial, LLC v. Hulu, LLC* [772 F.3d 709 (Fed. Cir. 2014)] and *Wildtangent* [(*Wildtangent, Inc. v. Ultramercial, LLC*, 132 S.Ct. 2431 (2012)(vacating and remanding from writ of certiorari)], finding insignificant data-gathering and use of the Internet did not amount to significantly more than the abstract idea. To the extent claim 3 does not claim include a generic computer input (i.e. keyboard or mouse), the *Wells Fargo* [*Content Extraction and Transmission LLC v. Wells Fargo...*, 776 F.3d 1343 (Fed. Cir. 2014)] court found that other known data inputs beyond generic computer inputs do not amount to "significantly more" than the abstract idea itself.

Final Act. 7. We adopt this finding, and the Examiner's findings from Answer 4–5, and reach similar legal conclusions. We now turn to the Reply Brief arguments.

We are not persuaded by Appellants' argument that "the present invention is more akin to DDR Holdings, where the court found a patent-eligible idea." Reply Br. 7. In *DDR Holdings*, the Court evaluated the eligibility of claims "address[ing] the problem of retaining website visitors that, if adhering to the routine, conventional functioning of Internet hyperlink protocol, would be instantly transported away from a host's website after 'clicking' on an advertisement and activating a hyperlink." *Id.* at 1257. There, the Court found that the claims were patent eligible because they transformed the manner in which a hyperlink typically functions to resolve a problem that had no "pre-Internet analog." *Id.* at 1258. The Court cautioned, however, "that not all claims purporting to address Internet-centric challenges are eligible for patent." *Id.* For example, in *DDR Holdings* the Court distinguished the patent-eligible claims at issue from claims found patent-ineligible in *Ultramercial*. *See id.* at 1258–59 (citing *Ultramercial*, 772 F.3d at 715–16). As noted there, the *Ultramercial* claims were "directed to a specific method of advertising and content distribution that was previously unknown and never employed on the Internet before." *Id.* at 1258 (quoting *Ultramercial*, 772 F.3d at 715–16). Nevertheless, those claims were patent ineligible because they "merely recite[d] the abstract idea of 'offering media content in exchange for viewing an advertisement,' along with 'routine additional steps such as updating an activity log, requiring a request from the consumer to view the ad, restrictions on public access, and use of the Internet.'" *Id.*

Appellants' asserted claims are analogous to claims found ineligible in *Ultramercial* and distinct from claims found eligible in *DDR Holdings*.

The ineligible claims in *Ultramercial* 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." *Id.* at 712. Similarly, Appellants' asserted claims recite providing data input, hierarchically grouping data, analyzing the data and modifying the data grouping, and then performing some transaction. This is precisely the type of Internet activity found ineligible in *Ultramercial*.

We find the contention that "the present invention is rooted in computer technology to overcome a problem specifically arising in the realm of computers, namely the problem of facilitating on-line commerce with respect to direct marketing for multiple targets or client groups," *id.*, unpersuasive as the only aspects of this problem description relate to the particular context the steps are practiced in, viz. an interactive digital television system. The remaining details are conventional market research activity.

> The use and arrangement of conventional and generic computer components recited in the claims—such as a database, user terminal, and server— do not transform the claim, as a whole, into "significantly more" than a claim to the abstract idea itself. "We have repeatedly held that such invocations of computers and networks that are not even arguably inventive are 'insufficient to pass the test of an inventive concept in the application' of an abstract idea."

Credit Acceptance Corp. v. Westlake Services, 859 F.3d 1044, 1056 (Fed. Cir. 2017)(citations omitted).

We are not persuaded by Appellants' argument that "the present invention, goes beyond activity previously engaged in by those in the field because the sensors collect data for adaptive classification of client information in real time, such as for mobile location or medical condition." Reply Br. 8. "A claim for a new abstract idea is still an abstract idea. The search for a § 101 inventive concept is thus distinct from demonstrating § 102 novelty." *Synopsys, Inc. v. Mentor Graphics Corporation*, 839 F.3d 1138, 1151 (Fed. Cir. 2016).

Appellants' reliance on *Fairfield Industries, Inc. v. Wireless Seismic, Inc.*, 2014 WL 7342525, *4-*7 (S.D. Tex. 2014) is unpersuasive as this decision is not from a court whose findings are controlling upon us in the issues here.

Claims 1–3 rejected under 35 U.S.C. § 103(a) as unpatentable over Maa and Aggarwal

We are persuaded by Appellants' argument that

> The present invention refers to "adaptively" in the context of transactions that vary based on software (the group analysis overlay) that processes data from user searches, queries or sensed feedback. [Claim 1]. Maa has no such reference. The closest reference cited by Examiner [Maa 8 col. 19, lines 32-61] describes a scenario in which a TV producer chooses a particular internet pointer to be transported along with a particular video signal to the TV viewer, where the TV producer can then vary the content of the internet pointer based on feedback from the TV viewer. However, filtering feedback through a TV producer as in Maa is not the same, or even similar, as filtering feedback through a group analysis overlay as in the present invention-one scenario is an open loop feedback system dependent upon human decision-making, and

> the other is a continuous closed loop that runs independently on software.

App. Br. 8–9.

Examiner finds that

> Appellants argue Maa does not teach "adaptively" transacting in the manner of the instant invention. Appellants' arguments, p. 22. In particular, Appellant argues the invention includes "filtering feedback," including an "open loop feedback" and "continuous closed loop." Id. Examiner disagrees, as the claims only require collecting data via an IDTV using particular sensors, which is disclosed by Maa. Indeed, the claims do not recite any of the argued "filtering feedback" functionality. However, to the extent Maa does not disclose the particular hierarchical grouping of the later claim limitations, Aggarwal was cited for that functionality.

Ans. 5–6. Examiner is in error in finding that "the claims only require collecting data via an IDTV using particular sensors." Claim 1 recites "hierarchically grouping IDTV user transactions collectively . . . by the IDTV group analysis overlay" followed by "adaptively modifying one or more sub-group or super-group attribute database registry by said overlay software." Examiner does not respond to Appellants' argument that the art fails to describe filtering feedback through a group analysis overlay.

CONCLUSIONS OF LAW

The rejection of claims 1–3 under 35 U.S.C. § 112(a) as lacking a supporting written description within the original disclosure is proper.

The rejection of claims 1–3 under 35 U.S.C. § 101 as directed to non–statutory subject matter is proper.

The rejection of claims 1–3 under 35 U.S.C. § 103(a) as unpatentable over Maa and Aggarwal is improper.

DECISION

The rejection of claims 1–3 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