IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

PERSONALIZED USER MODEL, L.L.P., Plaintiff, v. GOOGLE, INC., Defendant.	C.A. No. 09-525 (LPS)
GOOGLE, INC., Counterclaimant, v. PERSONALIZED USER MODEL, L.L.P. and YOCHAI KONIG, Counterclaim-Defendants.	PUBLIC VERSION - REDACTED

PUM'S RESPONSE IN OPPOSITION TO GOOGLE'S MOTION FOR JUDGMENT AS A MATTER OF LAW ON NON- INFRINGEMENT

OF COUNSEL:

Marc S. Friedman
Andrew M. Grodin
DENTONS US LLP
1221 Avenue of the Americas
New York, NY 10020-1089
(212) 768-6700

Mark C. Nelson
Richard D. Salgado
DENTONS US LLP
2000 McKinney Avenue, Ste. 1900
Dallas, TX 75201
(214) 259-0901

Jennifer D. Bennett
DENTONS US LLP
1530 Page Mill Road, Ste. 200
Palo Alto, CA 94304-1125
(650) 798-0300

MORRIS, NICHOLS, ARSHT & TUNNELL LLP
Karen Jacobs (#2881)
Jeremy A. Tigan (#5239)
Regina Murphy (#5648)
1201 N. Market Street
P.O. Box 1347
Wilmington, DE 19899-1347
(302) 658-9200
kjacobs@mnat.com
jtigan@mnat.com

Attorneys for Personalized User Model, L.L.P. and Yochai Konig

Original Fling Date: March 19, 2014
Redacted Fiing Date: April 8, 2014

TABLE OF CONTENTS

Page(s)

TABLE OF AUTHORITIES

Page(s)

CASES

RULES AND STATUTES

INTRODUCTION

Plaintiff Personalized User Model LLP ("PUM") presented legally sufficient evidence for the jury to conclude that each of Defendant Google Inc.'s ("Google") accused products infringe PUM's patents. Google's Motion for Judgment as a Matter of Law ("D.I. 656") should, therefore, be denied.

Google asks for judgment as a matter of law on six (6) grounds. First, Google contends that its accused products do not meet the "document" limitations of the asserted claims. Google also contends that its Search Ads product does not determine "documents of interest to the user" as required by claim 1 of the '276 patent and that Google's Content Ads product does not receive "search queries from the user" as required by claim 1 of the '276 patent. Second, Google contends that the accused products do not meet the learning machine and User Model limitations (*i.e.*, that certain of the accused products do not attempt to improve their predictive ability over time, that the accused learning machines are not mathematical functions or models, and that the learning machines do not "estimate" probabilities). Third, Google contends that its accused products do not estimate parameters. Fourth, Google contends that PUM failed to identify any probabilities. Fifth, Google contends that PUM failed to present sufficient evidence for the '276 patent generally. And sixth, Google contends that the above alleged failures also render the dependent claims not infringed as a matter of law. As set forth below, at a minimum, PUM presented legally sufficient evidence to permit a reasonable jury to find infringement for each of Google's accused products. Therefore, Google's D.I. 657 should be denied.

LEGAL STANDARD

Federal Rule of Civil Procedure 50(a) provides that a court may only grant a D.I. 657 for judgment as a matter of law against the non-moving party when "there is no legally sufficient evidentiary basis for a reasonable jury to find for that party on that issue." Fed. R. Civ. P. 50(a).

Reeves v. Sanderson Plumbing Products, Inc., 530 U.S. 133, 149, 120 S. Ct. 2097, 2109, 147 L. Ed. 2d 105 (2000). If "there is evidence upon which a reasonable jury could properly" find for the non-movant, judgment as a matter of law is improper. *Eshelman v. Agere Sys., Inc.*, 554 F.3d 426, 433 (3d Cir. 2009) (citation omitted). Because at a minimum PUM has offered a sufficient evidentiary basis for a reasonable jury to find that each of Google's accused products infringe the asserted claims of the patents-in-suit, Google's motion, D.I. 656, should be denied. *See Patzig v. O'Neil*, 577 F.2d 841, 846 (3d Cir. 1978).

ARGUMENT

PUM asserts that Google's accused products literally infringe claims 1 and 22 of U.S. Patent No. 6,981, 040 ("the '040 patent") and claims 1, 3, 7 and 21 of U.S. Patent No. 7,685,276 ("the '276 patent").[1] To prove literal infringement, PUM presented evidence at trial that each element of the asserted claims is present in each Accused Product. *See Karlin Tech., Inc. v. Surgical Dynamics, Inc.*, 177 F.3d 968, 974-75 (Fed. Cir. 1999) (literal infringement requires that the accused device contain all elements of the claimed invention). For the "document" limitations of Search Ads and Content Ads, PUM also presented evidence that those limitations are met under the doctrine of equivalents. Equivalency may be established using various methods, but all of the tests essentially require proving that the element in the accused device that is not literally present in the patent claim differs only insubstantially from the asserted patent

[1] PUM asserts that each of Google Search, Search Ads, Content Ads, and YouTube Content Ads infringe claims 1 and 3 of the '276 patent, that Google Search Ads, Content Ads, and YouTube Content Ads infringe claim 7 of the '276 patent, and that Google Search and Search Ads infringe claim 21 of the '276 patent. Because the evidence indicates that there is no difference between the way Content Ads and Google YouTube Content Ads products work (*e.g.* Tr. 599:21-600; 725:23-726:9), those products are collectively referred to hereinafter as "Content Ads". Together Google Search, Search Ads, Content Ads are referred to as the Accused Products.

claim limitation. *See Sage Prods., Inc. v. Devon Industries, Inc.*, 126 F.3d 1420, 1424 (Fed. Cir. 1997).

I. PUM Provided Evidence Sufficient to Establish that Each of the Accused Products Meets the "Document" Limitations

Google's arguments regarding the "document" limitations are flawed because they are based on an improper reading of the Court's claim construction and a mischaracterization of Google's systems and the evidence. To begin, Google argues that each claim "requires storing either 'a set of documents associated with the user' ('040 patent) or ''documents of interest to the user' ('276 patent)." D.I. 657 at 2. But the Court's construction of the limitations in question does not require that the documents be "stored" with the user, only that the documents be "associated" with the user. The word "stored" appears nowhere in the Court's construction, as Google's expert conceded. Tr. 1462:23-25.

Google attempts to justify its document-storage requirement by improperly reading an order of steps into the "analyzing a document d to identify the properties of the document" (step 1(d) of the '040 patent) and a portion of step 1(f) of the '276 patent ("identifying properties of the retrieved document"). [redacted]

Moreover, the Federal Circuit holds that "[u]nless the steps of a method actually recite an order, the steps are not ordinarily construed to require one." *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1369 (Fed. Cir. 2003); *Interactive Gift Express, Inc. v. Compuserve, Inc.*, 256 F.3d 1323, 1342-43 (Fed. Cir. 2001). Here, as this Court has held, the claims recite no such order. Further, this Court has already found the asserted claims do not require an explicit order. D.I. 347 at 53.

Google's last ditch attempt to rely on the definition of "learning machine" to support its document storage argument for element 1(b) also fails as PUM demonstrated during trial.

A. PUM's Evidence Demonstrates That Google Search Practices The Document Limitations.

Google's argument that none of the accused user-specific data files store documents is irrelevant because [redacted] Specifically, the '040 patent requires "updating user-specific files, wherein the user-specific data files comprise the monitored user interactions with the data and a set of documents associated with the user." (emphasis added). [redacted] This is exactly what is taught in the specification of the '040 patent. PTX 0001, at Figure 14 (identifying document identifiers, such as URLs, in the Document ID column); Tr. 1476:9-25. Specifically, Google associates a set of documents with a user. [redacted]. Google engineer Mr. Horling described this process during his cross examination.

Tr. 1371:16-1374:19. Dr. Pazzani also testified how the set of documents associated with the user is updated. Tr. 1475:4-12. Google's attempt to read storage into the claim fails.

Google's argument that documents must be analyzed and their properties identified *before* being applied to the user-specific learning machine improperly reads an order of steps. D.I. 347 at 53 (refusing to require an order of steps); D.I. 663, Jury Instruction 3.3 ("The steps of each claim do not need to be performed in the order in which they are listed in the claim unless the language of the claim so specifies. If the claim does not explicitly or implicitly require that the steps be performed in a certain order, then the steps may be performed in any order."). Step 1(b) of the '040 patent requires "updating user specific data files, wherein the user-specific data files comprise the monitored interactions with data and a set of documents associated with the user." Step 1(c) requires estimation of parameters of user specific data files and step 1(d) requires analyzing a document to identify properties of the document. Similarly, step 1(f) of the '276 patent requires "identifying properties of the retrieved document."

The language of the claims is clear that all that must be applied to the user specific learning machine is a set of documents "associated" with the user. Subsequent limitations require analysis of the document properties. *See* element 1(d) of the '040 patent (PTX 0001). [redacted] Once the document properties are analyzed, Dr. Pazzani testified that these properties are applied as part of estimating the probability using parameters estimated by each of the profilers. [redacted]

[redacted] *see also* Tr. 828:24-891:8; Tr. 1381:20-1382:4; Tr. 862:2-3; 848:4-7; Tr. 1377:11-18; 1382:18-1383:18.

Moreover, Google is simply mistaken that PUM concedes Google does not analyze the accused documents (web pages) themselves. This is exactly what PUM contends and exactly what Google does. [redacted]. Contrary to Google's argument, PUM has ***never*** pointed to tracking of URLs to meet the ***analyzing a document*** limitation of claim element 1(d). Nor has Google pointed to any evidence of such a contention.

Lastly, Google's argument that claim 1(g) of the '276 patent is not met because the documents are provided and made available by third-party website fails, because the user is still presented with the documents. The Court construed "presenting" to mean "to provide or make available." D.I. 348 at 2. It is undisputed that the documents are made available to the user, no matter the process. [redacted]

[redacted]

B. PUM Does Not Allege that Google Search Meets the Document Limitation under the Doctrine of Equivalents.

Google alleges that PUM failed to present evidence that the "document" limitations are met through docIDs or URLs under the doctrine of equivalents. D.I. 657 at 4-6. PUM, however, did not assert that Google Search meets these limitations under the doctrine of equivalents. Thus, Google's arguments concerning Google Search are irrelevant and fail as a matter of law.

C. Google Search Ads and Content Ads Meet The Document Limitations.

Google contends that PUM has failed to present evidence that Google Search Ads and Content Ads meet the "document" limitations. D.I. 657 at 4-6. As discussed in section I.A., *supra*, Google's argument regarding the storage requirements is a red herring, because there is no requirement in any of the limitations that the products store documents. Like for Google Search, PUM presented sufficient evidence that Google Search Ads and Content ads update a set of documents associated with the user. *See e.g.*, PTX 0395, PTX 0373, PTX 0375, PTX 0402, PTX 0404, PTX 0403, PTX 0408; *see also* Tr. 818:2-819:1. This evidence is further supported by the testimony of Google engineers. *See e.g.,* Tr. 545:3-547:8, 566:23-568:11. PUM provided more than sufficient evidence that the "set of documents associated with the user" is updated. *See e.g.*, Tr. 751:1-9; PTX 0409.

Moreover, PUM has presented legally sufficient evidence that ads are documents. It appears Google is also trying to read in a storage requirement into the Court's construction of

document. D.I. 657 at 7 ("Google does not store ads in 'electronic files' as required by the Court's construction of 'document.'") The Court construed "document" to mean "electronic file including text or any type of media." Again, there is no "storage" requirement as Google contends and Google is improperly trying to read something into the construction that simply is not there. Moreover, Dr. Pazzani testified that ads are "documents." [redacted]

Google's own technical documents are consistent with Dr. Pazzani's opinions. [redacted] For instance, its customer ID, its creative, it's landing page. The creative text of the ad." Tr. 762:15-18. Further, PUM provided sufficient evidence that ads are electronic files. *See e.g.*, PTX 1113, PTX 0399, PTX 0357, PTX0356, PTX 0220; Tr. 756:11-762:13. Moreover, it does not matter that ads are stored in a database, they are still "electronic files." [redacted] PUM also provided sufficient evidence for a jury to find that Google Search and Content Ads also practice the "documents" limitation under the doctrine of equivalents. Dr. Pazzani testified that "ads are not substantially different from documents. They're equivalent to documents… They function substantially as electronic files in substantially the same way to achieve substantially the same result… They are indexed and stored electronically." Tr. 763:10- 765:6.

D. Search Ads Determines "Documents of Interest to the User"

At a minimum, PUM has presented legally sufficient evidence to demonstrate that the ignored domains functionality in Search Ads analyzes the monitored data to determine

documents of interest to the user. As discussed, in Section I.A.(3), *supra*, the "documents" aspect of this limitation is met. PUM also presented more than sufficient evidence that the Accused Products determine the documents of interest to a user by analyzing monitored data.

[redacted]

E. At a Minimum, PUM Presented Sufficient Evidence That Content Ads Receive Search Queries From the User.

Limitations 1(d) and 1(e) of the '267 patent require "receiving a search query from the user" and "retrieving a plurality of documents in response to the query." Dr. Pazzani testified that the Accused Products meet this limitation. [redacted]

[redacted]

Google argues the Content Ads system does not meet this limitation because it is not a search engine. [redacted] The limitation only requires that users receive a search query; there are no specifications as to how it must be received. PUM has provided more than sufficient evidence that this limitation is taught.

II. The Accused Products Practice The Learning Machine And User Model Limitations.

The Court construed "learning machine" to mean a "mathematical function and/or model used to make a prediction, that attempts to improve its predictive ability over time by altering the values/weights given to its variables, depending on a variety of knowledge sources, including monitored user interactions with data and a set of documents associated with the user." D.I. 347.

[redacted]

[redacted]

[redacted] These arguments fail as a matter of law because, once again, Google improperly attempts to add requirements that are not part of the Court's definition and wholly mischaracterizes PUM's infringement contentions.

A. Short Term Profiles Are Learning Machines.

[redacted]

[redacted] But how long data is kept is of no relevance to whether the profiles are a learning machine. First, the Court's construction of "learning machine" does not require learning for more than 14 days, as Google apparently contends. Google is simply reading in limitations that are not there. All that is required is that the learning machine "attempt to improve its predictive ability ***over time***." PUM has presented substantial evidence that each of Google's learning machines improve its predictive ability ***over time.*** Specifically, PUM presented substantial evidence that learning can occur over any period of time. [redacted]

[redacted]

[2] [redacted]

[redacted] Google's expert Dr. Fox also conceded this point. [redacted] PTX 0213, PTX 0022, PTX 0025, PTX 0030, PTX 0033, PTX 0034, PTX 0037, PTX 0038, PTX 0069, PTX 0098, PTX 0379, PTX 0770, PTX 0376. PUM has presented substantial evidence and testimony that each of the accused learning machines "attempt to improve their predictive ability over time."

B. The Accused Learning Machines Are Mathematical Functions and/or Models.

Google argues that the accused learning machines and User Models are not mathematical functions or models because they purportedly are "cobbled together from multiple components." D.I. 657 at 11-12. It is seemingly undisputed that Google's learning machine have mathematical functions and models. Once again Google is attempting to import a limitation into the Court's construction of a "learning machine" by imposing a requirement that the model or function cannot be composed of multiple parts. Dr. Fox conceded that models can consist of multiple components depending on the kind of component. Tr. 1621: 8-14.

Dr. Pazzani testified that the tightly integrated components work together to make a prediction that attempts to improve the system's predictive quality over time. Tr. 780:19-781:4 [redacted] Tr. 781:25-782:4; Tr. 881:24-882:21; Tr. 799:16-24, *see also*, PX0022 including all accused functionality on a single diagram. The jury was presented with substantial evidence that the accused learning machines are mathematical functions and/or models. *See e.g.*, PTX 0022, PTX 0030, PTX 0069, PTX 0076, PTX 0098, PTX 0379, PTX 0770, PTX 0376, (Google Search); PTX 112, 113, 397, 398, 869, (Search Ads); PTX 223, 404 (Content Ads).

C. The Accused Products Incorporate User Specific Information.

Google asserts that because Search Ads and Content Ads [redacted] D.I. 657 at 13. This argument makes no sense and is merely a distraction. At trial, Dr. Fox conceded that a [redacted], Google's own engineer conceded that [redacted] [redacted] of evidence PUM presented detailing how Google Search estimates a probability that a user is interested in a document by applying the identified properties of the document [redacted], as required by the claims, is

insufficient to meet this limitation. Again, Google tries to confuse the issue. PUM has presented sufficient evidence that [redacted] estimates a probability as required by claim element 1(e) of the '040 patent and 1(f) of the '276 patent. *See e.g.*, PTX 0024, PTX 0022, PTX 0030, PTX 0433, PTX 0729, PTX 0200, PTX 0097, PTX 0382. For instance, the jury heard from Dr. Pazzani and Google's own engineers regarding the use of [redacted] in Google Search. Tr. 530:23-534:8, 543:16-18, 823:4-10.

Dr. Pazzani further testified about what makes learning machines user-specific. Tr. 781:25-782:4 [redacted] Tr. 881:24-882:21 ('276 patent). *See also* Tr. 799:16-24. Dr. Pazzani testified that [redacted] :5. The evidence presented in this case plainly shows that Google estimates parameters of a learning machine based on the user-specific data files to define a User Model specific to the user (or a user-specific learning machine). *See e.g.*, PTX 0025, PTX 0030, PTX 0033, PTX 0034, PTX 0038, PTX 0069, PTX 0076, PTX 0098, PTX 0373, PTX 0375, PTX 00379, PTX 0022, PTX 00770.

III. The Accused Products Estimate Parameters

Google asserts that its Accused Products do not estimate parameters because [redacted] However, Google ignores Dr. Pazzani's testimony explaining that each concept represented in the learning machine has values associated with it which the [redacted] to improve predictability over time. [redacted] Tr. 778:12-780:2; Glen Jeh (72:14-25,

73:1-16, 80:20-25, 82:4-19); PTX 0076; PTX 0033; [redacted]

Parameters are the values or weights [redacted]

Google additionally asserts that its products do not meet this limitation because they utilize precise measurements. However, Dr. Pazzani testified that the accused products in fact do make estimations both through calculations, computations, or estimates, as required by the claims. Dr. Pazzani testified that [redacted]

[redacted]

IV. PUM Identified Probabilities.

Google asserts that the probabilities PUM identified are only portions of an overall probability. D.I. 657 at 15-16. Dr. Fox conceded, however, that portions of probabilities can themselves be probabilities under the Court's construction. Tr. 1616:3-1617:11. Moreover, Google ignores the evidence explaining how each accused product in fact estimates probabilities. In regards to Google Search, [redacted]

[redacted]

Google also asserts that neither Search Ads nor Content Ads generates the accused probability. D.I. 657 at 15. However, Dr. Pazzani testified that [redacted].

Content Ads is similar: [redacted] PUM has presented sufficient evidence that each Accused Product estimates a probability.

V. PUM Presented More Than Sufficient Evidence on the '276 Patent.

Google contends that PUM has failed to present sufficient evidence of infringement of the '276 Patent because Dr. Pazzani referred back to his earlier presentation regarding the '040 Patent. D.I. 657 at 17. However, Google ignores that Dr. Pazzani stated he was relying on the same evidence and testimony to explain certain claims with identical terms, not simply referring back to his earlier presentation as a substitute for testimony. Tr. 900:14-901:8. This is entirely proper. In fact, it would have been wasteful for Dr. Pazzani to repeat the same information. *See Lucent Technologies, Inc. v. Newbridge Networks Corp.*, 168 F. Supp. 2d 181, 219 (D. Del. 2001) (permitting testifier to rely on earlier opinions for similar claim elements - "in the Court's view, it would have been redundant to require Dr. Guerin to restate in detail his prior opinion"). Indeed, Google similar relied on similar analyses for its non-infringement and invalidity presentations.

Google cites *Litton Sys. Inc. v. Honeywell Inc.*, 140 F.3d 1449, 1454 (Fed. Cir. 1998), for the proposition that literal infringement requires that the "accused device contain each limitation of the claim exactly; any deviation from the claim precludes a finding of literal infringement." PUM does not dispute this requirement and presented evidence demonstrating that the Accused Products meet every single limitation of the '276 patent. Tr. 875:20- 876:6 (claim 1(a)); Tr. 876:10-881:4 (claim 1(b)); Tr. 881:5-886:5 (claim 1(c)); 889:17- 898:21 (claims 1(d) and 1(e)); Tr. 897- 899:25 (claim 1(f)); 900:1- 906:3 (claim(d)). Dr. Pazzani even identified key differences between the two patents-in-suit. Tr. 876:10-18 (noting that the key difference between elements 1(b) of the two patents is that the "analyzing document" element is missing from the latter patent). In sum, there is more than sufficient evidence to support an infringement verdict.

VI. PUM Presented More Than Sufficient Evidence for the Dependent Claims.

As detailed above, PUM has presented legally sufficient evidence to show that the Accused Products infringe claim 1 of the '040 patent and claim 1 of the '276 patent. PUM has likewise presented sufficient evidence to show all claims dependent on claim 1 of the '040 patent and '276 patent (claim 22 of the '040 patent and claims 3, 7, and 21 of the '276 patent). Thus, Google's judgment as a matter of law on noninfringement of the asserted dependent claims should be denied.

CONCLUSION

For the foregoing reasons, PUM has offered legally sufficient evidence to prove that Google infringes PUM's patents. Accordingly, Google's Motion for Judgment as a Matter of Law should be denied.

MORRIS, NICHOLS, ARSHT & TUNNELL LLP

/s/ Regina Murphy

Karen Jacobs (#2881)
Jeremy A. Tigan (#5239)
Regina S.E. Murphy (#5648)
1201 N. Market Street
P.O. Box 1347
Wilmington, DE 19899-1347
(302) 658-9200
kjacobs@mnat.com
jtigan@mnat.com
rmurphy@mnat.com

Attorneys for Personalized User Model, L.L.P. and Yochai Konig

OF COUNSEL:

Marc S. Friedman
DENTONS US LLP
1221 Avenue of the Americas
New York, NY 10020-1089
(212) 768-6700

Mark C. Nelson
Steven M. Geiszler
Richard D. Salgado
DENTONS US LLP
2000 McKinney Avenue, Suite 1900
Dallas, TX 75201
(214) 259-0900

Jennifer D. Bennett
DENTONS US LLP
1530 Page Mill Road, Suite 200
Palo Alto, CA 94304-1125
(650) 798-0300

March 19, 2014

CERTIFICATE OF SERVICE

I hereby certify that on April 8, 2014, I caused the foregoing to be electronically filed with the Clerk of the Court using CM/ECF which will send electronic notification of such filing to all registered participants.

Additionally, I hereby certify that true and correct copies of the foregoing were caused to be served on April 8, 2014, upon the following individuals in the manner indicated:

BY E-MAIL

Richard L. Horwitz
David E. Moore
POTTER ANDERSON & CORROON LLP
1313 N. Market St., 6th Floor
Wilmington, DE 19801

BY E-MAIL

Brian C. Cannon
QUINN EMANUEL URQUHART & SULLIVAN, LLP
555 Twin Dolphin Dr., 5th Floor
Redwood Shores, CA 94065

Charles K. Verhoeven
David A. Perlson
Antonio R. Sistos
Andrea Pallios Roberts
Joshua Lee Sohn
QUINN EMANUEL URQUHART & SULLIVAN, LLP
50 California Street, 22nd Floor
San Francisco, CA 94111

/s/ Regina Murphy
_____
Regina Murphy (#5648)