IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

PERSONALIZED USER MODEL, L.L.P.,   )
)
                    Plaintiff,   )
)
        v.   )   C.A. No. 09-525 (LPS)
)
GOOGLE, INC.,   )   **PUBLIC VERSION**
)
                    Defendant.   )

LETTER TO THE HONORABLE LEONARD P. STARK
FROM KAREN JACOBS LOUDEN REGARDING CLAIM CONSTRUCTION

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January 19, 2011

CONFIDENTIAL – FILED UNDER SEAL

The Honorable Leonard P. Stark
United States District Court
    for the District of Delaware
844 North King Street
Wilmington, DE 19801

            Re: *Personalized User Model, L.L.P. v. Google, Inc.*
                   C.A. No. 09-525 (LPS)

Dear Judge Stark:

We write pursuant to the Court's direction that the parties provide submissions setting forth: (1) the claim terms and phrases that have been agreed upon and those that remain in dispute, as well as the specific constructions each side proposes, (2) the parties' suggested order for addressing the disputes, (3) any additional slides the parties think are needed based on their respective presentations, and (4) a complete copy of Mr. Konig's deposition transcript with an index. (1/11/11 Tr. 135-137).

(1)   The Term/Phrases in Dispute and the Parties' Respective Proposed Constructions

During the hearing, the parties clarified their respective positions regarding many of their proposed definitions. With those clarifications in mind, the parties met and conferred after the hearing, attempting to reach further agreements. The parties were able to reach agreement as to a few claim constructions. They also were able to narrow the number of disputes with respect to the construction of certain terms/phrases.

Attached is PUM's Claim Construction Comparison Chart (Exhibit A) that sets forth the parties' agreed upon constructions, the current terms/phrases in dispute and the parties' currently proposed constructions of those terms/phrases, as follows:

- The parties' agreed upon constructions are listed at the top of the chart, followed by the disputed constructions;

- The left column sets forth the claim language relating to the disputed term/phrase with the disputed terms/phrases in ***bold/italic***;

- The next column to the right identifies the asserted claim(s) in which the disputed terms/phrases appear;

- The middle column sets forth the actual claim language in dispute; and

- The remaining two columns set forth the parties' respective constructions. In certain instances, PUM proposes a revised construction, which is set forth directly below PUM's original construction. Defendant Google, likewise, proposes revised constructions and those are also set forth directly below the original constructions. The proposed construction in *italics* is the definition that PUM submits should be adopted. The specifics of PUM's revised constructions will be addressed in connection with the suggested order for addressing the parties' disputes.

(2)   PUM's Suggested Order for Addressing the Parties' Disputes

At the *Markman* hearing, PUM divided the disputed terms/phrases into seven groups: (i) the learning machine terms/phrases, (ii) the probability terms/phrases, (iii) user and user-specific data files, (iv) document and unseen document, (v) presenting, (vi) the definiteness disputes, and (vii) the order of steps and antecedent basis disputes. The parties agree that the disputes should be addressed in this order. The parties disagree, however, on the order in which the specific terms/phrases within these larger groupings should be addressed. PUM, therefore, sets forth its understanding and explanation of the currently disputed issues within the groupings and the reasons for its proposed order for addressing the disputes within those groupings.

    i.   **The learning machine terms/phrases: parameters, estimating parameters, learning machine, User Model specific to the user, user-specific learning machine.**

The overarching dispute with respect to the learning machine terms and phrases is what it means to be "specific to the user" or "user-specific." During the hearing the Court indicated that defense counsel was not trying to require different variables for each user, and thus, asked what dispute remains with respect to this issue. (Tr. 118:20-25). PUM responded that it did not understand that to be Google's position. (*Id.* at 119:1-23). Based on the parties' continued negotiations and Google's proposed revised construction, PUM sets forth its understanding of this dispute in the context of the "parameters" term, which, in PUM's view, is the first term that should be addressed in the learning machine group.

Parameters. PUM believes that the Court should address the claim construction disputes relating to the learning machine terms/phrases in the manner that they are addressed in the patents. Because the claim language requires that the "estimat[ed] parameters of a learning machine" "define the User model specific to the user" ('040 patent, claims 1 and 32) and/or the

"user-specific learning machine" ('276 patent, claims 1 and 23), the Court should logically address "parameters" first.

During the hearing, PUM explained that the "specific to the user" or "user-specific" language means that the User Model and/or user-specific learning machine must be associated with or related to each user. Using the exemplary template function $f(u,v,w,x,y,z) = a*u + b*v + c*w + d*x + e*y + f*z$ as an example, PUM demonstrated in its tutorial and at the hearing that the User Model's and/or user-specific learning machine's specificity is achieved because the parameters (that is, the values/weights of the variables a, b, c, d, e, and f) are specific to that user (they are estimated, at least in part, from the user's user-specific data files), thereby making the User Model and user-specific learning machine specific to that user. For example, the function $f(u,v,w,x,y,z) = .24*u + .05*v + .33*w + .12*x + .06*y + .20*z$ (slide 66) is specific to user 1, and the function $f(u,v,w,x,y,z) = .13*u + .25*v + .13*w + .01*x + .36*y + .12*z$ is specific to user 2, and so on. Both functions are, therefore, User Models specific to their respective users and/or user-specific learning machines even though they share the same template.

Google's proposed definition of parameters is that they are variables. Under Google's proposal, the User Model and/or user-specific learning machine must have different variables for each user that define a user-specific template function (*e.g.*, the variables a,b,c, must be different for each user, not the input variables x,y,z). This difference results in Google's construction requiring different template functions (*e.g.*, user 1 might have template function $f(x,y,z) = a*x + b*y + c*z$ and user 2 might have template function $f(x,y,z) = \underline{d}*x + \underline{j}*y + \underline{k}*z$). Google's proposed definition also requires that each user have a separate program in the case of the user-specific learning machine term. Google's position is further defined by its criticism that PUM's proposed definition is for the so-called Group or Cluster Model. (Tr., at 71:8-72:3). The specification is clear, however, that the Group or Cluster Model is simply an average of the individual User Models, and not a number of users sharing the same template function as Google suggests. '040 patent, col. 25:41-44. Moreover, the averaging described in the specification is not plausible under Google's proposed definition because all of the User Models would have different variables, but is straightforward if the system is using the same template function where the specificity is achieved through the differing parameters. *See, e.g.*, '040 patent, col. 25:36-46.[1]

Because the User Model and user-specific learning machine elements are mathematical models and/or functions, their specificity is best understood by understanding what defines them, which is "parameters." It is for this reason that PUM suggests that the Court start its analysis with the term parameters.

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[1]   Google side 16 shows (i) a unique or restricted model for each user which Google labels the patent, but which is in fact much more restrictive than even the Personal Web embodiment of the patent, and (ii) a template model labeled PUM that is actually the Personal Web embodiment. To correctly illustrate the Group Model (Google slide 17), Google would need to show the circle and one large man (representing the average of the User Models).

  <u>The remaining learning machine terms/phrases</u>. Once "parameters" is defined, it is logical to next define "estimating parameters" and then "learning machine" as these terms are part of the same phrase. After defining these terms/phrases, the Court should look to the "wherein" clause, which states "wherein the parameters define a User Model specific to the user," and address the "specific to the user" and "user-specific" ('276 patent) dispute, followed by the User Model and user-specific learning machine terms. PUM notes that Google now proposes that "specific to the user" and "user-specific" means "restricted" to a particular user instead of "unique" to that user (*see* Exhibit A). Simply substituting one term that does not appear in the claims for another does nothing to resolve this dispute, however.

  ii. **The probability terms/phrases: probability/probability P(u|d), estimating probability/probability P(u|d) ..., posterior probability/posterior probability P(u|d,q), estimating posterior probability/posterior probability P(u|d,q)...**

  The parties agree on the order in which to address these terms/phrases. During the hearing the Court asked if PUM agreed that probability has to be a number. (Tr., at 119:24-25.) PUM agrees and thus has revised its construction of these terms/phrases to include that the degrees of belief or likelihood must be "numerically-based."[2]

  iii. **User and user-specific data files**

  The disputes regarding these terms remain as set forth at the hearing with the exception that Google proposes that "user-specific" now means "restricted to a particular user" instead of "unique" to a particular user.

  iv. **Document and unseen document**

  During the hearing, PUM offered to revise its construction of document to require that documents be "electronic." The main dispute, therefore, relates to whether a document must be a "file". Although Google conceded at the hearing that dynamically generated text was still a document despite such text never being stored as a "file," other types of media (*e.g.*, streaming video and databases) are also documents that may not exist as "files" per se. Thus, Google's proposed revised construction that "document" means "an electronic file including text or any type of media" does nothing to resolve the central dispute -- whether a "document" must be a "file." Google also disputes PUM's definition because it would permit a single word to be a document.

  The dispute regarding unseen document remains unchanged.

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[2] In reviewing the transcript, PUM's counsel misspoke on page 44 of the transcript where he indicated the patents clearly are the frequentist approach. As the briefing, slides, and remainder of the argument make clear, PUM's position is that the patents relate to Bayesian probabilities. A short summary article describing the two schools of probabilities, and Bayesian probability in plain English, is attached as Exhibit B for the Court's further reference.

v.   Present/presenting

The dispute remains unchanged.

vi.   The definiteness terms

The dispute regarding these terms remains unchanged; however, PUM revised its constructions to reflect its revised definition of "document."

vii.   Order of steps/antecedent basis

Order of steps. Both parties submit revised constructions that more clearly set forth their respective positions. PUM's revised its constructions with respect to the '040 patent to reflect that step (f) uses the probability from step (e). PUM also revised its constructions with respect to the '276 patent to reflect the differences between claims 1 and 23. These proposed constructions are set forth in Exhibit A.

Antecedent basis. To the extent PUM's positions with respect to "document d"/"the document" was not clearly set out in the briefing, PUM clarifies that "the document" from step (e) of the '040 patent refers to "an unseen document d" introduced earlier in that step.

(3)   Additional Slides and (4) Mr. Konig's Testimony

PUM provides herewith a copy of its rebuttal slides as Exhibit C. PUM also provided Google with a copy of these slides at the conclusion of the hearing. Although Google has objected to the submission of slides that were not actually used at the hearing, PUM notes that both sides have submitted slides that were not actually used.

Finally, as the Court requested, PUM also attaches an indexed copy Mr. Konig's deposition testimony, as well as exhibits thereto, as Exhibit D.

Respectfully,

/s/ Karen Jacobs Louden

Karen Jacobs Louden (#2881)

cc: Clerk of Court (Via Hand Delivery; w/enclosures)
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