

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

META PLATFORMS, INC.

Petitioner,

v.

STERLING COMPUTERS CORPORATION

Patent Owner.

Case IPR2025-00430

U.S. Patent No. 7,716,217

PATENT OWNER'S REQUEST FOR DIRECTOR REVIEW

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EXHIBIT LIST

Patent Owner's Exhibit No.	Exhibit Description
2001	Declaration of Latifur Khan (March 12, 2025)
2002	Curriculum vitae of Latifur Khan
2003	Declaration of Justin Marston (March 12, 2025)
2004	"BlueSpace Mail Search" Document, Sept. 2, 2004
2005	"The Development of the Mathematical Algorithms," May 12, 2005
2006	"BlueSpace Mail Relevance," June 7, 2005
2007	"BlueSpace Mail Relevance," Aug. 16, 2005
2008	"BlueSpace Mail Relevance," Aug. 17, 2005
2009	"Importance," Sept. 18, 2004
2010	"BlueSpace Mail Relevance," Oct. 6, 2005
2011	"BlueSpace Mail Relevance," Oct. 7, 2005
2012	"BlueSpace Mail Relevance," Oct. 7, 2005
2013	"There are many cognate relevance values that must be calculated," Nov. 9, 2004
2014	Claim Chart for BlueSpace Mail Documents
2015	Supplemental Declaration of Justin Marston (July 8, 2025)
2016	<i>listing of NATURE article:</i> Marston, Justin, "Chaos in the Classroom," Jan. 25, 1996, NATURE, <i>available at</i> https://www.nature.com/articles/379306b0

Patent Owner's Exhibit No.	Exhibit Description
2017	<i>excerpt from:</i> 32nd European Union Contest for Young Scientists (2020-2021) (“Winners 1989-2019”)
2018	LinkedIn profile: Justin Marston
2019	Metadata extracted from native of EX2004
2020	Metadata extracted from native of EX2005
2021	Metadata extracted from native of EX2006
2022	Metadata extracted from native of EX2007
2023	Metadata extracted from native of EX2008
2024	Metadata extracted from native of EX2009
2025	Metadata extracted from native of EX2010
2026	Metadata extracted from native of EX2011
2027	Metadata extracted from native of EX2012
2028	Metadata extracted from native of EX2013
2029	Declaration of Latifur Khan (September 10, 2025)
2030	Declaration of Justin Marston (September 9, 2025)
2031	Declaration of Paul Marston (September 9, 2025)
2032	“BlueSpace Mail Relevance,” September 21, 2005
2033	“BlueSpace Mail Relevance,” October 2, 2005
2034	“BlueSpace Mail Relevance,” November 8, 2005
2035	“BlueSpace Mail Relevance,” November 12, 2005
2036	“BlueSpace Mail Relevance,” November 13, 2005

Patent Owner's Exhibit No.	Exhibit Description
2037	"Frequency analysis stats," August 21, 2005
2038	"Relevance typology 2.bmp," November 13, 2005
2039	"Relevance process flow 2.bmp," November 13, 2005
2040	<i>intentionally omitted (duplicate)</i>
2041	Log of BlueSpace documents showing BlueSpace work from June 28, 2005, until January 13, 2006
2042	Log of J. Marston privileged communications with BlueSpace counsel regarding BlueSpace work from June 28, 2005, until January 13, 2006
2043	Version of EX2010/EX1044 showing tracked changes and comments by Justin Marston
2044	Version of EX2010/EX1044 showing tracked changes and comments by Paul Marston
2045	Version of EX2010/EX1044 showing tracked changes and comments by Jon Fernyhough
2046	Redacted (for privilege) correspondence from J. Marston to B. Hoffman, January 12, 2006
2047	"Transmail Relevance Formulae," September 9, 2004
2048	"Notes on Search Document," September 13, 2004
2049	"Pauls Formula Section Sept 17.doc," September 20, 2004
2050	"General Comments," May 17, 2005
2051	"Some Thoughts on the TransMail Relevance/Importance Algorithm," May 17, 2005
2052	"2004-09-10 notes on search document.doc," September 10,

Patent Owner's Exhibit No.	Exhibit Description
	2004
2053	"Changes to document_.doc," September 15, 2004
2054	"BlueSpaceMailSearchfor JamesB.doc," September 15, 2004
2055	"Importance 1.1.1.doc," September 18, 2004
2056	"formula.doc," August 17, 2005
2057	"SoftwareImplementation.doc," August 18, 2005
2058	"SoftwareImplementationComment.doc," August 19, 2005
2059	"BlueSpaceRelevancePM250805.doc," August 25, 2005
2060	"BlueSpaceMailRelevancePM250905.doc," September 25, 2005
2061	"BlueSpaceMailRelevancePM270905c.doc," September 28, 2005
2062	"BlueSpaceMailRelevancePM280905.doc," September 28, 2005
2063	"Comments to Jon and Justin 07.doc," October 8, 2005
2064	"Alterations to document.doc," October 8, 2005
2065	"BSMR021005_jfpm2.doc," October 13, 2005
2066	"BSMR021005_jfpm3.doc," October 13, 2005
2067	"BSMR021005_jfpm4.doc," October 13, 2005
2068	"BSMR021005_jfpm5.doc," October 13, 2005
2069	"BSMR021005_jfpm6.doc," October 14, 2005

Patent Owner's Exhibit No.	Exhibit Description
2070	"Jon & Justin 14.10.05.doc," October 14, 2005
2071	"Comments to Justin and Jon Oct 15th.doc," October 15, 2005
2072	"BlueSpaceMailRelevanceJM06,11,05.doc," November 10, 2005
2073	"BlueSpace Mail Relevance," August 21, 2005
2074	"BlueSpace Mail Relevance," November 12, 2005
2075	Paul Marston LinkedIn Profile
2076	Paul Marston employment history (1968-2024) (from teachers' pensions employment history)
2077	Article: "Farewell after almost 50 years: Paul Marston, Senior Lecturer in Mathematics."
2078	Letter appointing P. Marston as lecturer at Nazarene Theological College, July 25, 2005
2079	"Twitter's Recommendation Algorithm," X Blog, March 31, 2023
2080	"Twitter Revenue and Usage Statistics (2025)," Business of Apps, Sept. 2, 2025
2081	"Twitter Is Changing Your Timeline: What You Need to Know," ABC News, Feb. 10, 2016
2082	"News Feeds, Old Content: A Brief History of Algorithmically Curated Feeds on Facebook and Twitter," Medium, April 29, 2019
2083	"You Can Finally Switch Your Instagram Feed to a Chronological Timeline. Here's How," Business Insider, Mar. 24, 2022

Patent Owner's Exhibit No.	Exhibit Description
2084	Complaint, <i>Sterling v. X Corp.</i> , Case No. 1:24-cv-00552 (W.D. Texas)
2085	Complaint, <i>Sterling v. Meta</i> , Case No. 1:24-cv-00551 (W.D. Texas)
2086	“Our Approach to Facebook Feed Ranking,” Meta, June 11, 2025
2087	“Facebook Feed AI System,” Meta, June 4, 2025
2088	“Meta Reports Fourth Quarter and Full Year 2024 Results,” Meta, Jan. 29, 2025

The '217 Patent claims recite methods and systems for determining relevance of a piece of sent electronic content. The '217 Patent claims a unique method and system that determines a relevance score (1) based at least in part on “*actions of the user*” (i.e., the first user for which relevance is being determined) on “*the piece of electronic content*” (i.e., the item being scored for that first user) and (2) by “*identify[ing]*” another “*user*” (or users) that also “*is a recipient*” of the piece of content being scored for the first user and “*is cognate to the [first] user.*” The prior art did not teach or suggest this method or system for determining relevance, and the Board erred when it found that Dumais and Rose do.

I. The Board Erred When It Used Its “Intuition” as Its Basis for Its Finding That Rose’s Relevance Score Is Based on the First User’s Own Actions.

The **first** error the Board made was that the Board used its “intuition” to find that a limitation was obvious. Every claim requires “*determin[ing] the relevance score*” “*based at least in part on the first determined measure of relevance*” – i.e., “*one or more actions of the user on the piece of electronic content.*” EX1001, Claims. The reference to “*the user*” refers to the “*user*” from the preamble – i.e., the user for whom a relevance score is being determined. Thus, the first user’s own actions on the item being scored must be part of the calculation when scoring an item. Rose, however, teaches “predicting” a score based upon “likely” relevance – i.e., **before** the first user interacts with an item (e.g., when an unread email arrives). EX1006, 2:28-34 & Abstract. This is undisputed. What is disputed is “whether Rose

also re-scores the content **after** the first user interacts with it.” Paper 51 (“FWD”), 42. Critically, Petitioner *admits* that Rose does not expressly disclose re-scoring an item after the first user provides feedback on that item. Paper 49 (“Tr.”), 10:3-20. The Board erred when it used common sense or intuition (*see* FWD, 42) – instead of any actual disclosure in Rose – to supply the missing claim limitation.

Relevant Background on Rose: Rose ranks items “**to be presented** to a user” “according to a **prediction** of the **likely** degree of relevance to the user’s interests.” EX1006, Abstract. The rank of an item is based upon its “score,” which is calculated, in part, using “attribute-based prediction,” which compares the user’s profile (which contains information about the user’s interests based upon, e.g., “the user’s indications ... in previously retrieved documents”) with the item’s profile (which contains information about, e.g., the content). *Id.*, Cl. 1, 6:36-59 & 7:35-37. Rose uses the first user’s feedback (1) “to update the user’s profile” and (2) “to rank that [item] **for ... other users.**” *Id.*, 5:56-60. Rose **does not disclose** then using the first user’s feedback (or profile) to also update the item’s score. EX1006; Tr., 10:3-20.

The Board’s finding: The Board found that (1) the user’s profile – updated **after** the first user provides feedback on the item – is a “*first measure of relevance*” (limitation 1[d]) (FWD, 33-34) and (2) Rose then “re-scores” each item using that **updated** profile (limitation 1[h]). FWD, 38-44. The Board’s second finding was based upon the logic that it would be “unintuitive” to not re-score items. *Id.*, 42.

The Board's errors: Assuming, *arguendo*, that the Board's first finding was correct, the Board's second finding was erroneous. As Petitioner admits, Rose **does not disclose** using the cited "*first measure of relevance*" – i.e., the user profile, as **updated** after the first user provides feedback on the item – to "*determin[e] the relevance score.*" Instead of being based upon some disclosure in Rose, Petitioner arguments about Rose (and the Board's findings) were based upon common sense. For example, Petitioner argued that, even though Rose does not disclose re-scoring, a POSA "would understand that this is how Rose works." Tr. 10:14-15. The Board agreed, finding that it would be "unintuitive" to not re-score items. FWD, 42.

The Board erred when it relied upon common sense to supply this missing limitation. While "common sense" can be considered in the obviousness analysis, it "is typically invoked to provide a known *motivation to combine*, not to supply a missing claim limitation." *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1361 (Fed. Cir. 2016). Common sense should be used to supply a missing limitation **only** where the limitation is "unusually simple" and the technology is "straightforward," and "common sense" should **not** be used as a "substitute" for evidentiary support. *Id.*

Here, Petitioner and the Board used common sense (or "intuition") to supply the missing claim limitation, which was improper. The missing claim limitation here is not "simple" or "straightforward." To the contrary, the missing claim limitation requires monitoring the first user's actions on a piece of content and then using

complex math to factor those actions into various algorithms for calculating relevance. EX2029, ¶¶ 54, 57, 84-88 (cited in Paper 18 (“Resp.”), 6-7 & 10-13).

The Board erred when it used “common sense” as a substitute for evidentiary support. Numerous disclosures in Rose suggest that Rose does **not** re-score items.

First, Rose ranks items “**to be presented**” to the first user, suggesting that Rose **does not rank** items that have **already** been provided. PO raised this argument (Resp., 32-34), but neither Petitioner nor the Board ever squarely addressed it. *See* Papers 30 & 51. **Second**, Rose repeatedly states that it “predicts” the relevancy of content based upon the user’s “likely” interest. Resp., 33-34. Once a user has already rated an item, there is no longer a need to “predict” whether it is relevant (by recalculating its “prediction score”). The Board dismissed this language (FWD, 43), but there was no basis to ignore that evidence. **Third**, Rose discloses what the first user’s feedback **is** used for: (1) “updat[ing] the user’s profile” (EX1006, 5:21-23); and (2) to “rank” that item for “other users.” *Id.* 5:56-60. Rose does **not** disclose then using that updated profile to also update the score. The fact that Rose expressly states, numerous times (*id.* 5:21-23, 5:58-59, 6:36-43), that the **user profile** is updated after the first user rates an item shows that Rose knew how to express “updating” but did not to disclose updating the item’s “score.” Thus, substantial evidence shows that Rose does **not** re-score items after the first user rates them.

In contrast to this substantial evidence, there is a dearth of evidence supporting

the Board's finding that Rose re-scores items. The Board found that the passage about "all of the messages" suggests re-scoring items **after** the first user rates them:

Once the user's profile is retrieved, all of the messages to be provided to the user are ranked on the basis of a predicted degree of relevance to the user. For example, in an e-mail system, all of the messages addressed to that user are ranked. Those messages which are particularly pertinent to the user's interests are highly ranked, whereas junk mail messages are given a low ranking.

FWD, 41 (quoting EX1006, 4:38-42). This passage, however, does not support a finding that Rose re-scores items. As an initial matter, the passage does **not** state that **every** message must be ranked; instead, it states that "messages **to be provided** to the user are ranked." *Id.*, 4:38-40. This forward-looking language suggests that Rose only ranks the items "not yet provided" to the user – i.e., the ones for which Rose is still "predicting" relevancy (e.g., unread e-mails). In any event, even if Rose ranks and displays all items (e.g., read and unread emails), it can still be true that "all of the messages" are "ranked" because items can be ranked based upon the "prediction score" calculated **before** the first user interacts with the item. The Board was wrong when it found that the language about "all of the messages" suggests re-rescoring.

The Board found that PO's reading of Rose was "unintuitive" because, it found, under PO's assertion, an "email's original ranking is fixed." FWD, 42. But that is not true, and it is based upon a separate error: conflating "score" with "rank." A "score" is the numerical output from the scoring algorithm. EX1006, 5:63-64, 7:9-39 & 8:38. A "rank" is where the item is ordered among a list of items. *Id.*, Abstract.

Thus, while it is true that an item's "score" would be fixed (i.e., the initial "prediction score"), the "ranking" of that item in a list would change as new e-mails (not previously "provided") arrive and are scored. Thus, the Board's finding that new emails "cannot displace the email's original ranking" is factually incorrect.

The **second** disclosure the Board pointed to is Rose's statement that "messages which are particularly pertinent to the user's interests are highly ranked, whereas junk mail messages are given a low ranking." FWD, 42 (citing EX1006, 4:40-42); *see also* EX1006, 2:5-9 (Rose's aim is to avoid "deal[ing] with large amounts of irrelevant information"). The Board found that re-scoring items would further this purpose because, "where a user indicates an email message is not of interest, that email would be given a relatively low ranking." FWD, 43. But here, too, the Board is mistaken. The Board's finding is based upon an assumption that the email will be scored exclusively based upon the first user's feedback. But that is not how Rose scores items. To the contrary, Rose scores an item using (1) the first user's input **on every item** in the system (i.e., the user's interests **generally**) and (2) feedback from **the entire community**. Thus, if that the Board were correct that Rose re-scores items (which it is not), if the first user gave a "thumbs down" to an item that the user disliked (e.g., a movie about dogs), but the community of users ranked that movie highly, the movie would continue to receive a high score and rank for the first user. Similarly, the dog movie that the user disliked could continue to receive a

high score if, for example, the first user liked many other items about dogs, such that the first user's profile scores dog items highly. Both of these results are, certainly, not "intuitive."¹ As a result, re-scoring items after the first user ranks them could frustrate Rose's purpose, as the user could continue to see the movie she disliked ranked highly. As the Board explained, ranking an "uninteresting" item highly does "not comport with Rose's overall teachings and stated purpose." FWD, 42. Thus, even if it were proper to rely upon common sense (which it is not), common sense supports a finding that Rose does not re-score an item after the first user rates it.

The **third** passage in Rose that the Board referenced was Rose's disclosure that its **user profile vector** is updated "[e]ach time a user provides a new response." FWD, 41 (citing EX1006, 6:38–40). The Board found that, based upon this disclosure, "it follows that when Rose provides its ranking of all email messages, that email's ranking is updated." FWD, 41. But the Board does not cite anything in support of this conclusory finding. *Id.* And, Rose's disclosure of updating the profile (to assist in predicting scores for new items) but **not** disclosing updating the score suggests the opposite: that Rose does not re-score items. The Board erred when it relied upon common sense to supply that missing limitation.

¹ What is more intuitive is that a user would not wish to see a movie that she watched and disliked displayed in a list of items being ranked. This interpretation is also supported by the teachings in Rose, which state that items "**to be provided** to the user are ranked on the basis of a **predicted** degree of relevance to the user."

II. The Board Erred When It Found That Rose “*Identifies*” a Second User That Is “*Cognate to the [First] User*.”

The second error the Board made is that the Board found that Rose “*identifies*” another user that is “*cognate to the [first] user*.” FWD, 35-37. This finding was erroneous because Rose’s considers the feedback from all other users.

Relevant Background on Rose: The only algorithm Rose discloses for correlating users correlates the feedback of all other users. Paper 18, 37 (citing EX2029, ¶¶185-188 & EX1006, 7:24). When predicting the interest of the first user in an item, correlations from all users except the first user are considered, and all users’ ratings on the same object are factored into the calculation. *Id.* (citing EX2029, ¶186). The example matrix shows this, too: the feedback of all other users (here, Users A, B, and D) is considered, even though User D almost always provided opposite feedback as compared to the first user (User C). EX1006, Fig. 6, Table 42.

Despite the fact that Rose considers all users’ feedback, the Board nevertheless found that Rose “*identifies*” those users that are “*cognate to*” (i.e., similar to) the first user. The finding was based upon the Board’s erroneous finding that “consider[ing] the feedback of other users having similar feedback responses” (along with everyone else’s feedback) is the same as “*identify[ing]*” another “*user*” that is “*cognate to the [first] user*.” FWD, 36. This was erroneous because Rose does not “*identify*” any “*users*”; Rose simply considers (all) users’ feedback. *E.g.*, EX1006, Fig. 6, Table 42. The ‘217 Patent’s rationales for “*identify[ing]*” “*cognate*”

users, and the math to do so (*see* Resp., at 8-13), are entirely missing from Rose.

The passages that the Board cites in support of this finding do not support the Board's conclusion that Rose discloses "*identify[ing]*" a "*cognate*" user.

First, the Board cited to Rose's statement that a "factor in the prediction of a user's interest in information is based upon a correlation with the indications provided by other users." FWD, 35 (citing EX1006, 6:59-61). But this disclosure relates to the first user's correlation to **all other users** ("indications provided by other users"), not just users similar to the first user. **Second**, the Board pointed to Rose's "correlation matrix." FWD, 37 (citing EX1006, 6:64-66); *id.* at 36. As discussed above, however, the matrix correlates the feedback of **all users**. **Third**, the Board pointed to Rose's disclosure that one user's reaction can be used to rank that item for "other users whose interests in movies are similar or opposed." FWD, 37 (citing EX1006, 5:55-61). This passage, however, refers only to the fact that one user's input on an item will be used to rank that item for **all other users**, regardless of whether their interests are "similar" or "opposed." **Finally**, the Board emphasized the words "identify" and "similar" in the following passage:

a weighted sum of scores that are obtained from each of the content and correlation predictors can be used, to determine a final ranking score. Other approaches which take into account both the attribute-based information and user correlation information can be employed. For example, multiple regression analysis can be utilized to combine the various factors. In this approach, regression methods are employed to identify the most important attributes that are used as predictors, e.g., salient terms in a document and users having similar feedback responses, and how much each one should be weighted.

EX1006, 7:37-47 (as quoted in FWD, 36). This passage, however, does **not** disclose “*identify[ing]*” “*users*” at all. Instead, the passage describes identifying “attributes.” For example, if the content predictor (“salient terms in a document”) proves to be a more important “attribute” (than correlation prediction) in predicting relevancy, that “attribute” could be given more weight. On the other hand, if correlation predictors (other users’ feedback) proves to be a more important “attribute” in predicting relevancy, that “attribute” could be given more weight. The Board focused on the passage’s mention of “similar feedback responses,” but Rose does not teach or suggest isolating (or “*identify*”) “similar feedback responses”: instead, “similar feedback responses” are part of the overall “correlation-based prediction” used to rank the relevance in Rose and are considered along with all users’ feedback.

In sum, the Board erred when it found that considering the feedback of all users (which happens to include users with similar feedback to the first user) is the same as “*identify[ing]*” another user (or users) that are “*cognate to the [first] user.*”

III. The Board’s Decision on Dumais Is Based Upon an Erroneous Claim Construction That Renders Superfluous the “*Cognate*” Limitation.

The **third** legal error the Board made was its implicit adoption of an erroneous claim construction that collapsed two separate components in the ‘217 Patent, rendering superfluous the “*cognate*” limitation present in every challenged claim. Every claim requires “*identify[ing]* at least one other of the plurality of users [1] that is a recipient of the piece of electronic content **and** [2] that is cognate to the

user.” The claims and specification show that the “*cognate*” limitation (requiring that the second user must share some similarity with the first user) is **in addition to**, or **distinct** from, the “*recipient*” limitation. In other words, the similarity that makes users “*cognate*” cannot be solely that they are “*a recipient*” of the item being scored. The Board erroneously collapsed the two distinct limitations, finding that interacting with an item simultaneously makes users **both** “*recipients*” **and** “*cognate*.”

The Federal Circuit has repeatedly held that claims should not be construed so as to render any claim term “void, meaningless, or superfluous.” *Wasica Fin. GmbH v. Cont’l Auto. Sys., Inc.*, 853 F.3d 1272, 1288 n.10 (Fed.Cir.2017). And, when “[w]here a claim lists elements separately, the clear implication of the claim language is that those elements are distinct components.” *Becton, Dickinson & Co. v. Tyco Healthcare Group, LP*, 616 F.3d 1249, 1254 (Fed.Cir.2010).

Here, as in *Becton*, the two limitations are connected by the word “and,” demonstrating that “*cognate*” is a separate requirement from “*recipient*.” 616 F.3d at 1254-55. The Board has recognized this. *E.g.*, IPR2025-00299, Paper 53, 16:8-11 (“[H]ow is that not collapsing those two features into one?”). The specification also shows the distinctness of the two limitations. **First**, it distinguishes between (1) the category of **all** “*recipients*” and (2) the **distinct** category of users in a “*cognate*” group. *E.g.*, EX1001,25:59-64 & 26:11-15 (distinguishing “global relevance” and “cognate relevance”). **Second**, the specification states that the actions of the first

user's "*cognate*" group are **more helpful** than the actions of every "*recipient*" of that piece of content. Resp.,¹⁰ (quoting EX1001, 14:59-15:11). **Third**, the specification states that each user's "*cognate*" group considers historical interactions (plural) **over time**: "for each user, **over time**, the system may identify a cognate group of the n other users **regarded as most similar**"; "[s]uch a group may be defined by similar past user actionss and assessmentss" (plural). *See id.* Thus, to be "*cognate*" based upon actions, there must be shared "historical" pattern of behavior, not just being "*a recipient*" of the singular piece of content being scored.

The Board found that Dumais' use of collaborative filtering to create a "user model" satisfies the "*identify...*" limitation because Dumais analyzes "similarities" between users, which can be based on "usage of items," and "items" can be "emails" (i.e., sent content). FWD,²⁰⁻²¹. The Board found that, when "users interacted with the same email," "those users are 'recipient[s] of the same email.'" *Id.* at 21. The Board's findings are legally erroneous because they render superfluous the "*cognate*" requirement present in every claim. Under the Board's interpretation, when two users "interact" with the same piece of content, that automatically makes the two users **both** "*recipients*" and "*cognate*." But if the Board is correct – i.e., if shared use/access to the single piece of content being scored alone makes users "*cognate*" – then the "*cognate*" requirement adds nothing beyond the "*recipient*" requirement. Every "*recipient*" of that piece of content would **always**, and

automatically, be “*cognate*” to every other “*recipient*.” The Board’s interpretation is legally erroneous and not supported by substantial evidence because it (1) renders the “*cognate*” limitation superfluous, *Wasica*, 853 F.3d at 1288 n.10; and (2) fails to treat separately listed elements as distinct. *Becton*, 616 F.3d 1249.

IV. The Board Misconstrued the Claims When It Found That Dumais’ “User Model” Satisfies the “*Identify...*” Limitation.

The **fourth** error the Board made was that it ignored that the claims require “*identify[ing]*” “*a recipient*” **of a particular piece of content** (the content being scored) and another user that is “*cognate*” **to a particular user** (the first user). Thus, one cannot “*identify*” the other user until it knows **both** (1) “**the**...*content*” being scored and (2) “**the** *user*” for which the content is being scored. The Board erred when it found that Dumais’ “user model” meets this limitation because Dumais does not know “**the**...*content*” being scored when it forms a user model.

The Board found that, when Dumais creates a user model, it “*identif[ies]*” another “*recipient*” that is also “*cognate to the [first] user*.” But Dumais creates its user model **before** it is known which item needs to be scored. This is because items in Dumais only need to be scored once search results are returned. EX1005, Abstract; EX2029, ¶100. For example, Dumais states that, after the first user runs a search that returns initial results, its “user model” can be used to “modify” (or re-score) the list of search results. EX1005, [0041]. This demonstrates that Dumais’ “user model” was built **before** the scoring phase – i.e., **before** the search is run and, thus, before

system knows “the” item being scored. The Board erred when it found that creating a user model in Dumais “*identiffies*” other “*recipients*” of “the piece of electronic content” being scored because “the piece of ... content” is unknown when Dumais’ user models are formed.

V. The Board’s Decision Is Not Supported by Substantial Evidence Because It Arbitrarily & Capriciously Ignored the Cited Evidence of Diligence.

The Board’s fifth error is its finding that PO had not carried its burden of production on diligence. The Board refused to consider PO’s properly submitted evidence. PO’s Response had (1) cited EX2003-14 and EX2032-78 as containing evidence showing diligence during the critical period and (2) explained “the significance” of the material, explaining that the cited Exhibits “show reasonable diligence” and “corroborate the inventors’ testimony regarding diligence.” Resp., 5-6, 45, 49; 37 C.F.R. § 42.22. Although PO did not include “pinpoint citations” to specific pages from each Exhibit, doing so would not make sense because the entire Exhibits (along with their metadata) show the inventors worked on the invention on particular dates of the critical period. Many of the Exhibits are themselves drafts of the provisional patent application, and the others (in their entirety) show work on the math for the provisional. Paper 31, 10-11. Thus, the entirety of each Exhibit shows work on the invention. It was arbitrary and capricious for the Board to refuse to consider a single one of PO’s 34 Exhibits showing diligence. *See Aqua Prods., Inc. v. Matal*, 872 F.3d 1290, 1325 (Fed.Cir.2017) (FWD “must be based on *the*

entirety of the record”; “refusal to consider evidence bearing on the issue before it is, by definition, arbitrary and capricious” (citing 5 U.S.C. § 706)); *Princeton Vanguard LLC v. Frito-Lay N. Am. Inc.*, 786 F.3d 960, 970 (Fed.Cir.2015); *Netflix, Inc. v. DivX, LLC*, 84 F.4th 1371, 1377 (Fed.Cir.2023); *cf.* PTAB CTPG, I(M). Given all of this corroborating evidence, including drafts of the provisional, it also was clear error for the Board to find that PO “does not cite any non-testimonial evidence corroborating” the Marstons’ testimony that they were “revising the draft of the provisional patent application.” FWD, at 15. Finally, there was no basis for the Board to refuse to consider the inventors’ declarations, which describe the corroborating evidence. PO’s Response cited and described them. Resp., 5, 45, 49 (citing EX2003, EX2015, EX2030-31).

The Board also committed a **second** error in its diligence analysis when it refused to consider proper argument and citation in PO’s Sur-Reply. In response to Petitioner’s argument that PO had not described the evidence “with specificity” (Reply, 12 & 19), PO’s Sur-Reply provided additional descriptions of the diligence evidence, explaining which documents were revised when (Sur-Reply, at 14-15); that the evidence shows the inventors’ time spent on particular documents (*id.*, 17 (citing EX2030, ¶¶13-17)); and the activities during an alleged “gap” (*id.*, 15 & 17). Once again, however, the Board refused to consider the evidence, finding the descriptions “untimely.” FWD, 15. That finding was erroneous. 37 CFR § 42.23(b).

Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. 42.6(e), I certify that on this 2nd day of September 2026, a true and correct copy of the foregoing **Patent Owner's Request for Director Review** was served by electronic mail on Petitioner's lead and backup counsel at the following addresses:

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