

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 SUR-REPLY

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USPTO, “Inventorship Guidance for AI-Assisted Inventions,” https://www.federalregister.gov/d/2024-02623/p-76	12

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

Patent Owner's Exhibit No.	Exhibit Description
2052	"2004-09-10 notes on search document.doc," September 10, 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

Patent Owner's Exhibit No.	Exhibit Description
2069	"BSMR021005_jfpm6.doc," October 14, 2005
2070	"Jon & Juistin 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

Patent Owner's Exhibit No.	Exhibit Description
2083	"You Can Finally Switch Your Instagram Feed to a Chronological Timeline. Here's How," Business Insider, Mar. 24, 2022
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 determines the relevance of sent content using a novel, multi-user approach: the system tracks the actions of both the user for which the relevance score is being determined (the "first" user) and also other "*recipient(s)*" of that same piece of content. The Patent recognizes that the actions of some "*recipient[s]*" – i.e., those "*cognate*," or similar to, the first user – will be more valuable to the first user, and, therefore, requires "*identify[ing]*" a second user that is both "*a recipient*" of the content and also "*cognate to the [first] user.*"

This unique approach is not found in the prior art. Dumais is not focused on inter-person communications but instead describes systems for retrieving results in response to a search query (e.g., on the Internet). Bieganski also is not focused on inter-person communications but instead describes systems for making "serendipity-weighted recommendations" for non-sent content (e.g., books & movies). Neither reference "*identif[ies]*" another user(s) that received the same piece of sent content as a first user ("*a recipient*"), let alone another "*recipient*" that is also "*cognate to the [first] user.*" The third reference, Rose, does not rank messages using the first user's actions and also does not "*identify*" another "*recipient*" that is also "*cognate to the [first] user.*" Moreover, none of the prior art references teach the desirability of (or the math required to implement) those features and, therefore, it would not have been obvious to add them. Therefore, the prior art references do not render obvious any claim.

I. CLAIM CONSTRUCTION

The Board correctly found that Petitioner has not overcome the presumption that the “*computer program module*”/“*module*” limitations do not invoke 35 U.S.C. §112, ¶6. Paper 14, 10-12; *see also* Resp., 14-17; EX2029, ¶¶21-44. Petitioner does not appear to contest that finding. Reply, 2. Thus, the “*module*” limitations are not MPF.

Applying *Phillips*, the proper construction of “*identify[ing] at least one other of the plurality of the users ... that is cognate to the user*” is “identifying at least one other user that shares similar past user actions and assessments as the first user and/or shares similar direct input as the first user.” Construction is needed because Petitioner ignores that the second user must be “*cognate to a specific user*” (“*the user*” from the preamble).

Applying *Phillips*, the proper construction of “*a recipient of the piece of electronic content*” is “a user that has received the same piece of electronic content sent from a sender that the first user received.” EX2029, ¶136. In the claims, “*a recipient of the¹ piece of electronic content*” refers to the preamble’s “*a piece of electronic content sent from a sender*.” The specification also consistently refers to “*recipients*” as users that received content sent from a sender. Resp., 18-19 (citing EX2029, ¶136 (citing EX1001, 2:26-28, 5:1-2, 5:3-5, 5:12-14, 5:21-23, 10:15-18)). The mention of “a document” in Claim 5 does not support Petitioner’s position

¹ Unless otherwise noted, all bolded/underlined emphasis has been added.

because (1) a “document” may be “sent by a sender” (e.g., an attachment) and (2) Claim 5 is dependent upon Claim 1, which states that the “*content*” is “*sent from a sender*.” Document management applications also may include content “sent from a sender” (e.g., emails). *Id.*, Fig. 20.

II. THE PRIOR ART DOES NOT RENDER OBVIOUS ANY CLAIM.

A. Rose Does Not Disclose, Teach, or Suggest “*determin[ing] the relevance score*” Based Upon “*actions of the user on the piece of electronic content*.”

Rose does not disclose, teach, or suggest using “*actions of the [first] user*” on content to “*determine[]*” “*the relevance score*” for that same piece of content. EX2029, ¶¶167-179.

Rose determines a score for a piece of content by **predicting** whether the content is **likely** to be relevant to the first user. That score is determined **before** the first user views the content. This is **undisputed**. E.g., EX1045, ¶26 (acknowledging that items “have already been rated” before the user interacts with them).

What is disputed is whether Rose **also re-scores** the content **after** the first user interacts with it. Petitioner points to **no express** disclosure of re-scoring in Rose. *See generally* Pet.; EX1003; Reply; EX1045. Instead, Petitioner argues that “a POSITA would have understood” that Rose re-scores content after the first user interacts with it. Reply, 5-6. None of Petitioner’s citations, however, supports a finding that Rose re-scores content.

First, Petitioner points to Rose's statement that it ranks/scores "all of the messages" (or "each item"). Reply,4-5 (citing EX-1005,2:25-35); EX1045,¶22 (citing Claim 1). But that is true even if Rose does not re-score (which it does not), because Rose calculates a predictive score **before** the first user views the content.

Second, Petitioner cites to Rose's disclosure that email messages are ranked and displayed "according to their likely degree of relevance...with an indication of their relative ranking." Reply,4-5 (citing EX-1006, 2:25-35); EX1045,¶20. But this passage supports **PO's position**, as messages are displayed according to "**likely**" relevance – i.e., based upon the predictive, pre-viewing score.

Finally, Petitioner points to Rose's disclosure that the user's **profile vector** is updated. Reply,5-6; EX1045,¶24. But the profile vector is updated for two specific reasons: (1) "to rank that [content] for ... **other users**" (EX1006,5:56-60); and (2) to better "**predict**[]" the first user's "**likely** interest." EX1006,6:51-53; *id.* 2:28-34, 4:38-40 & 6:51-54. Rose does **not** disclose using the updated profile vector to subsequently also update the relevance score, and doing so would not make sense given Rose's focus on **predicting** relevancy. EX2029,¶176.

The only other "evidence" Petitioner cites is testimony from its expert about "how a POSITA would have understood Rose." EX1045,¶¶21-22. But the testimony is either unsupported by, or contradicted by, Rose's teachings. For example, he argues that "Rose teaches the advantages of re-ranking items," EX1045,¶27, but he

cites no evidence in support. (And Rose does **not** discuss re-ranking **at all**.) He also opines that Rose must re-score content because users may want to see “a past movie they liked” as recommended content. EX1045,¶26. But he provides no evidence in support (*id.*), and it is just as likely that users would **not** want to see recommendations for movies they have already viewed. Finally, he argues that “**a** recommendation system continues evaluating a document’s relevance even after a user’s initial rating.” EX1045,¶28. Regardless of whether some recommendations systems do this, a PHOSITA would know it would not make sense to do so **in Rose**. EX2029,¶¶176.

In response to PO’s citation to dozens of citations in Rose “predicts” an item’s “likely” relevance (EX2029,¶¶169-171), Petitioner argues that the Board should ignore those disclosures because that language just refers to “estimated” or “approximated” relevancy (as distinct from actual relevancy). Reply,6; EX1045,¶25. The problem with Petitioner’s argument is that Rose receives data about **actual** relevancy (the first user’s feedback). At that point, the system no longer needs to “guess at” relevancy, as Petitioner contends (*id.*), because the system has **actual data** on what the user found relevant. There is no evidence that Rose would continue to “predict” (or “guess at”) relevancy for content for which the actual relevance is known.

Petitioner also ignores Rose's repeated teachings that Rose ranks items "to be presented" or "to be provided" to the user.² Reply,6; EX1045,¶26. Importantly, Petitioner's expert does not dispute that the "to be presented" language literally refers to information that has **not yet** been presented, and he does not address the grammatical structure of those phrases at all. Instead, he argues that **PO's** expert failed to prove that "Rose does **not** re-rank ... items." EX1045,¶26. But it is **Petitioner's burden** to show that Rose re-scores content; it is not PO's burden to show that Rose does **not** re-score.

The Board should decline Petitioner's invitation to ignore Rose's teachings that (1) Rose "**predicts**" an item's "**likely**" relevance and (2) displays items "**to be presented**."

Responding to PO's common sense argument (Resp.34-35), Petitioner argues that, even if the first user provides feedback that a piece of content is irrelevant (e.g., because he did not like the movie, or he found the cat café email irrelevant because he is allergic to cats), if the rest of the community liked the content, the first user would still want to see that content ranked highly because it is "content the user may not otherwise have found." Reply,6-7; EX1045,¶27. But Petitioner's expert ignores

² Rose does not disclose **displaying** all content (both viewed and unviewed). EX1006. Nevertheless, even if it were assumed that, in addition to ranking all messages, Rose also **displays** all messages, re-scoring would be unnecessary: every message could be displayed based upon its initial, predictive score/rank.

that the first user has **already found** the content and **already determined** that the email is **not relevant**. At that point, “serendipitous discovery” is meaningless. There is no value in continuing to re-score Rose’s content for the first user.³

B. Rose Does Not Teach or Suggest the “identify...” Limitation.

Rose also does not disclose, teach, or suggest “*identify[ing]*” other user(s) that are “*cognate to the [first] user.*” EX2029,¶¶180-193. Instead, when Rose considers community feedback, Rose considers the feedback from **all other users** (not some subset of similar users). EX2029,¶¶185-193.

Petitioner argues that, because the claims use the language “*at least one*” to describe the other “*user(s)*” being “*identif[ied]*,” the claim language does not preclude considering feedback from ‘**all** other users’ that have rated the item.” Reply,8. That is incorrect. A user’s “*cognate*” group is **a subset** of users that **share some similarity** with the first user (e.g., in the same department). E.g., EX1001,12:55-58 (“[I]f the vast majority of the users in a given department read a piece of content sent globally, then the content is likely to be relevant to another user in that department.”). A group consisting of “everybody” (i.e., “**all** other users”) would not be users “*cognate to*” the first user.

³ The ‘217 Patent can continue considering the feedback of other users that are “*cognate to the [first] user,*” but the feedback of the first user’s cognate group – as opposed to Rose’s community at large – has a heightened relevancy for the first user.

Next, Petitioner points to Rose's mention of "other users whose interests in movies are similar or opposed." Reply,8; EX1006,5:57-60. That passage, however, states only that one user's rating can be used to help predict relevancy for **all other users**, regardless of whether their interests "are similar or opposed." It does not "identify" another "user" that is "*cognate to the [first] user.*"

Petitioner points to Rose's discussion of "multiple regression analysis," in which the verb "identify" is used. Reply,8 (citing EX1006,7:43-47). However, the verb "identify" in that passage refers to "identify[ing]" **attributes**, **not** another "*cognate*" "*user.*" EX1006,7:39-51 (emphasis added); EX1003,¶187. Moreover, the reference to "users having similar feedback responses" does **not** disclose, teach, or suggest "**identify[ing]**" "users having similar feedback responses" **as the first user.**

Petitioner asserts that "PO's own expert agreed these [two] passages describe identifying cognate users," but the testimony does not support that conclusion. The first (EX1040,187:7-13) states only that a group of "users whose interests in movies are similar" could refer to "cognate" users. It does not address "**identify[ing]**" another "user" that is "*cognate to the [first] user.*" In the second (EX1040,193:15-24), he stated that regression could "determine users having similar feedback responses," but he clarified that **Rose's analysis** "consider[s] all the other users" "regardless of the cognate or non-cognate." EX1040,193:25-194:10; *accord id.*,237:11-23. In the final piece of testimony (EX1040, 194:17-195:2), he agreed

only that “users with similar feedback responses would be cognate users.” The testimony did not address whether Rose “identifies” another “cognate” user, let alone another “user” that is “cognate to the [first] user.”

Finally, Petitioner contends that “grouping users by their ‘interests’ and/or ‘feedback responses’” is the same as “*identify[ing] at least one other...user[]...that is cognate to the [first] user.*” Reply,9. Not true. While a group of users with “similar” “interests” or “feedback responses” may be “cognate” to other members in the group, nothing in Rose teaches or suggests “identifying” another user that is “cognate to the [first] user.” Rose also does not disclose the desirability of, or the math required, to do so.

C. The Rose-Bieganski Combination Does Not Render Obvious Any Claim.

It is undisputed that Bieganski does not disclose “*determining the relevance score*” for content “*based ... on*” “*actions of the [first] user.*” Neither does Rose. EX2029,¶¶180-193; *supra*,7-9. Thus, the combination does not render obvious any claim.

In addition, a POSITA would not have been motivated to combine Rose and Bieganski. *See* Resp.,42-44; EX2029,¶¶194-203. Petitioner’s primary argument for why a POSITA would combine the references is its assertion that Bieganski would “improve” upon Rose. Pet.,71 (citing Fox,¶236). But that conclusory premise is incorrect: given Rose’s teachings that feedback from all users is valuable, a

POSITA would **not** understand Bieganski's approach to be an improvement over Rose. Resp.,42-44&EX2029,¶199.

PO also explained that, because Bieganski does not address "content sent from a sender," a POSITA would not look to Bieganski. Resp.,42-44; *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1337 (Fed. Cir. 2016) ("Whether a skilled artisan would be motivated to make a combination includes **whether he would select particular references** in order to combine their elements."). Petitioner argues that this is "improperly attack[ing] the references individually." But pointing out differences between the invention and a prior art reference **is proper** in a motivation-to-combine analysis. *See id.*; *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966) (obviousness analysis ascertains "differences between the prior art and the claims at issue"). Bieganski's "type of content" is not "irrelevant," as Petitioner contends. Reply,10-11.

D. Dumais Is Not Prior Art.

1. **Conception Prior to Dumais.**

PO submitted extensive documentation showing the Marstons' conception by June 7, 2005, including drafts of the provisional (EX2004, EX2006, EX2054) and documentation showing other work on the provisional, including Paul Marston's work on the math (EX2005, EX2009, EX2047, EX2048, EX2049, EX2050,

EX2051, EX2052, EX2053, EX2055); *see also* EX2003, EX2015, EX2030, EX2031 (Marstons' declarations).

Petitioner alleges that EX2004 and EX2006 lack any indication the Marstons authored them. Reply,13. But there is extensive evidence of authorship, including that (1) Justin Marston is their custodian (EX2004,35, EX2006,61, EX1043,203:16-21), (2) the Marstons provided comments (in tracked changes) to various drafts of the same document (*e.g.*,EX2043/EX2044); (3) EX2004/EX2006 are drafts of the provisional (EX1003,4-99), which Justin Marston emailed to BlueSpace's attorney for filing (EX2042,16); and (4) other documents from the timeframe show the inventors' work on the same invention. *E.g.*,EX2005,10 ("Pauls Formula for Justins Business"); EX2009 (Author is "Marston").

PO also submitted a chart summarizing the voluminous evidence showing conception, with pin cites to where in EX2004 and EX2006 each limitation is found. EX2014; EX2041,311:9-312:10 & EX2043,11:21-13:1 (attorneys prepared EX2014, but Justin Marston reviewed it). Petitioner challenges EX2014, but EX2014 is a proper summary chart (Fed. R. Evid. 1006), and the Board has considered such analyses in assessing priority. *See, e.g., Unified Pats., LLC v. Flexiworld Techs., Inc.*, No. IPR2022-00775, 2023 WL 7198014, at *5 (P.T.A.B. Nov. 1, 2023). In any event, even without EX2014, the Conception Documents

themselves show that each limitation is disclosed. Resp.,45; EX2003, EX2004, EX2006, EX2049.

Next, Petitioner contends that others contributed to conception. Reply,16. But Petitioner points to **no** inventive aspect that was allegedly conceived by **any** of these individuals. *Id.* For example, Petitioner argues that Jon Fernyhough implemented, or coded, Paul Marston's mathematical formulas, but Petitioner does not argue (Reply,15) that work contributed to conception. *E.g.*, MPEP §2109 ("Unless a person contributes to the conception of the invention, he is not an inventor." (quoting *Fiers v. Revel*, 984 F.2d 1164, 1168 (Fed. Cir. 1993))); USPTO, "Inventorship Guidance for AI-Assisted Inventions," <https://www.federalregister.gov/d/2024-02623/p-76> ("perform[ing] a significant contribution to reduction to practice of an invention conceived by another is not enough to constitute inventorship"). Petitioner argues that Tony Morton-Jones provided notes on the Gauss-Seidel algorithm (Reply,15-16), but that algorithm was preestablished at the time of the invention (EX1042:54:2-22) and, thus, is not an inventive aspect. With respect to Rick Turner and Tim Couper, Petitioner again asserts vague contributions to "technical aspects," but the only concrete contribution alleged is, again, the preestablished Gauss-Seidel algorithm. *Id.* Petitioner points to no inventive contribution by any of these third-party individuals.

Next, Petitioner contends that the invention was “unresolved” or incomplete by June 7, 2005, because more work was done on the math. Reply,16-17. But the evidence (EX2004, EX2047, EX2049) is that Paul Marston had conceived of operative formulas **by 2004**. *Id.*, EX2031,¶¶12&19, EX2042,62:7-64:16. His later work reflected only a “refinement to the formulas.” EX2031,¶¶12,16,19; *accord* EX2031,¶5 & EX1050,151:2-8; Paper 14 (no evidence that “more than ordinary skill would have been required to achieve the subsequent math and algorithms”).

Finally, Petitioner argues that the Conception Documents fail to disclose the “*identify* ...” limitation. Reply,18-19. But PO cited to **seven passages** in the Conception Documents, and Petitioner addresses only a single passage in the ‘217 Patent regarding a “tree structure.” *Id.*,19, Regarding that passage, PO’s expert testified only that the passage does not disclose **the entirety of** the “*identify*...” limitation. EX1044,129:10-13. Petitioner’s citation plainly falls short of proving that the Conception Documents fail to disclose the limitation. Indeed, Petitioner does not address most of the **seven passages**⁴ showing conception of the “*identify*...” limitation. EX2014,5. Although Petitioner ambiguously argues that some of the ‘217 Patent passages that counsel asked Dr. Khan about (EX1044,114:10-115:15 &123:3-131:21) are “similar” to some (unspecified) passages in the Conception Documents,

⁴ Counsel only even asked about **four** passages from the ‘217 Patent (*see* Reply,18-19 (citing four passages from EX1001)).

Petitioner never compares the passages in the '217 Patent to the passages in the Conception Documents. For example, disclosures in the Conception Documents discuss "a recipient." E.g., EX2014,5 (**users that "read a piece of content sent globally"**) (quoting EX2004,15-16)). But Dr. Khan was never questioned about those passages; nor could he have been, as he did not review the Conception Documents as part of his assignment. EX2029.

In sum, there is ample evidence in the Conception Documents that the Marstons had conceived of every limitation prior to Dumais.

2. The Inventors Were Diligent in Reducing Their Invention to Practice.

PO submitted extensive evidence showing diligence between June 29, 2005, and the filing of the provisional on January 13, 2006. For example, PO submitted drafts of the provisional and documents showing Paul Marston's work on math from files last modified/saved in:

- August 2005. *See* EX2007-EX2008, EX2037, EX2056-EX2059, EX2073.
- September 2005. *See* EX2032, EX2060-EX2062.
- October 2005. *See* EX2010⁵- EX2012, EX2033, EX2063-EX2071.
- November 2005. *See* EX2013, EX2034-EX2039, EX2072, EX2074.

⁵ EX2043-45 have the same metadata as EX2010 because they were created from the native of EX2010 (to show who made which comments/edits). *Supra*, vi (ToC) & EX2030, ¶¶29-32.

PO also submitted evidence showing that the provisional was sent to counsel on January 11, 2006, and filed on January 13, 2006. EX2042,16 & EX1003.

PO also submitted evidence showing the other work that the Marstons were engaged in during the critical period, including their daily occupations. In particular, Paul Marston was working full-time as a lecturer on statistics. EX2031,¶¶7-10&14, EX2075-EX2078. And Justin Marston was managing BlueSpace's operations (including an international move), working on BlueSpace's product TransMail, and securing funding for BlueSpace. EX2015,¶¶9-11; EX2030,¶¶7-12,18-19,24-25,35-36,48-49,52-53; EX2041-EX2042.

Petitioner contends that Justin Marston's work on BlueSpace and TransMail is not "related to ...the '217 patent's invention," Reply,22-23, but TransMail is BlueSpace's product into which Justin Marston intended to incorporate the '217 Patent invention. EX2030,¶7. Moreover, if Justin Marston failed to keep BlueSpace running by managing its operations (*id.*¶11) and securing funding (*id.* ¶10 & EX2041,Nos.27-28), he would not have been able to continue work on the '217 Patent inventions.

Petitioner also asserts that Paul Marston's work teaching statistics and Justin Marston's work on BlueSpace/TransMail matters are "irrelevant. Reply,21-22. To the contrary, in assessing diligence, the Board must consider whether the inventors "worked reasonably continuously within the confines of [their] occupations."

Perfect Surgical Techniques, Inc. v. Olympus America, Inc., 841 F.3d 1004, 1011 (Fed. Cir. 2016).

Petitioner also asserts that Justin Marston's logs showing his work for BlueSpace (EX2041&EX2042) show that his "early work related to altogether *different* inventions" (Reply,17-18), but Petitioner ignores that the primary evidence showing reduction to practice of the invention is not the logs but other documentation. *Supra*,14-15. To the extent Petitioner is suggesting that the Marstons did not work on their invention until 2006 (*see* Reply,17-18&19-21), that is refuted by the evidence of both conception and reduction to practice. *Id.* & *supra*,10-11. Indeed, the logs were submitted only to show that, to the extent there were days during the critical period that the Marstons did **not** work on the invention, they were not abandoning the invention; they were working on their daily occupations. EX2030,¶¶7-12,18-19,24-25,35-36,48-49,52-53; EX2041-EX2042.

Next, Petitioner argues that PO failed to show diligence because there are "gaps." Reply,19-21. The "gaps" that Petitioner identifies, however, are periods of days between the "last modified" dates of drafts of the provisional. *Id.* For example, Petitioner points to the period between June 7, 2005 (the "last modified" date of EX2006), and August 16, 2005 (the "last modified" date of EX2007), Reply,20n.9, but the period is not a "gap": during the period, Justin Marston and Paul Marston were revising the draft of the provisional patent application. EX2030,¶¶13-17.

Indeed, 16-pages of material was added, which took Justin Marston 20 hours (*id.*); it is unreasonable to assume he did all that work on a single day (the last saved date). Moreover, PO submitted evidence showing exactly what else the Marstons were doing during each period. EX2030¶¶13-22 (June-August); *id.*¶¶23-25 (August-September); *id.*¶¶26-38 (September-October); *id.*¶¶39-49 (October-November); *id.*¶¶50-53 (November-January). Moreover, the documentation showing diligence that the inventors were able to locate today (20 years later) does not account for the emails exchanged (which no longer exist (EX2030,¶8 & EX2031,¶17)) and telephonic conferences held regarding the invention. Notably, the only case that Petitioner cites involved a “gap” of over two months (Reply,21-22), whereas, here, the periods that Petitioner points to (which are not “gaps” – *supra*,16-17), are shorter (50 days or less).

Finally, Petitioner argues that the Board should not have to “sift through” voluminous documentation. Reply,19-21. But the primary evidence corroborating conception is contained in just a few documents (*e.g.*, EX2004,EX2006,EX2049), and the fact that the reduction to practice evidence is voluminous only highlights the inventors’ diligence. Moreover, PO described exactly what the reduction-to-practice documents are, and the inventors’ declarations provide further detail. Resp.,49-50 (citing and describing EX-2032-2074, 2076-2078); EX2030, EX2031. Moreover, PO made efforts to make the evidence digestible, including providing a log

summarizing voluminous diligence documentation (EX2041) and a claim chart mapping the lengthy conception documents (EX2014).

E. Dumais Does Not Render Obvious Any Claim of the '217 Patent.

Dumais does not teach or suggest “identify[ing] at least one other of the plurality of users that is a recipient of the piece of electronic content and that is cognate to the [first] user.” Ex. 1001, Claims; EX2029, ¶¶133-156.

From the outset, it is noteworthy that Petitioner points to no disclosure in Dumais that teaches or suggests “identify[ing]” a relationship between the first user and some other “user(s)” in the system. This is a key piece of the '217 Patent because, in the '217 Patent, the other “user(s)” being “identiffied]” (1) must be “a recipient” of the same piece of content that the first user received; and (2) must be “cognate to the [first] user.” Petitioner ignores this required relationship, repeatedly pointing to passages in Dumais that discuss grouping users, without regard to whether the first user is in the group.

1. “identify[ing] ...a recipient of the piece of electronic content”

Petitioner concedes that Dumais does not expressly teach or disclose “identify[ing] ...a recipient.” Reply, 23-24 (arguing that “POSITAs would have understood” that Dumais “suggests” this feature). Moreover, for the reasons set forth below, nothing in Dumais suggests this limitation.

The primary passage that Petitioner cites is Dumais' statement that collaborative filtering can be used to develop profiles based upon similar "usage of items." Reply,23-24; EX1005,[0052]. For numerous reasons, this disclosure does **not**, however, suggest "*identify[ing]*" "*a recipient*" of "*the piece*" of content that the first user received.⁶

First, collaborative filtering in Dumais does **not** consider **the first user** (or the piece of content the first user received) at all. EX1005,[0052],[0055]. For example, Dumais never considers whether **the first user** is part of **any** group of created using collaborative filtering. *See id.* Petitioner and its expert ignore that the '217 Patent claims require that the other "*user*" being "*identif[ie]d*" must be "*a recipient*" of **the same** piece of content that **the first user** received. E.g., EX1045,¶51 (arguing that Dumais "teaches identifying users who are a recipient of **a** piece of electronic content"); *see generally* Pet.; EX1003,¶¶120-22; Reply; EX1045,¶¶47-52.

Second, collaborative filtering in Dumais groups together individuals based upon similar "usage of items" (plural). EX1005,[0052]. In contrast, the '217 Patent requires "*identify[ing]*" another user that received the same **item** ("*a recipient of **the piece** of electronic content*"). Dumais does not "*identify*" another user that is "*a*

⁶ Petitioner stresses that "items" can be "emails" (Reply,23-24), but that, at most, establishes that "recipients" exist in Dumais, not that Dumais "*identif[ies]*" particular other "*recipient(s)*."

recipient” of **the singular email** being scored for the first user, nor would it make sense to do so in Dumais. Resp.,53-54 & **EX2029**,¶¶133-156. Notably, PO raised this issue in the Response (*id.*), but Petitioner does not respond to it at all. *See* Reply.

Finally, when Dumais uses collaborative filtering to develop models/profiles for new users, that step is **not** part of the part of “*determining a relevance score.*” In the ‘217 Patent, “*identify[ing] ...a recipient*” is part of “*determining a relevance score.*” E.g., EX1001,C1.1 (“*system for determining a relevance score... comprising...a second relevance measurement module...configured to identify...a recipient*”). In contrast, Dumais uses collaborative filtering to create “profiles” or “models” for “new users.” *Id.* ¶143 (citing **EX1005**, [0055]). Although Dumais can calculate a “ranking score” for a document (EX1005,[0025],[0033],C1.17), its use of collaborative filtering to develop profiles/models for new users is **not** part of that scoring process; instead, Dumais develops profiles/models for new users **before** a search is even run.

The other passage in Dumais that Petitioner points to is that Dumais tracks when files are “forwarded, replied to, [or] sent to.” Reply,24(citingEX1005,[0022]). But Dumais’ disclosure of tracking the actions of **every** user in the system on **every** item in the system – which Dumais does to “tag” items (*e.g., id.*[0023]) – fails to “*identify*” another, specific user(s) that is “*a recipient*” of **the same** content **as the first user.**

Finally, Petitioner contends that because Dumais can both (1) group users based upon similar “usage of items” and (2) track when files are “forwarded, replied to, [or] sent to,” that suggests that “Dumais would thus track users receiving the same email.” EX1045,¶49. This is incorrect for several reasons discussed above, including that (1) neither passage teaches or suggests “*identify[ing]*” “*a recipient*” of **the same piece** of content **that the first user received**; and (2) Dumais’ “groups of individuals” are based upon usage of multiple “items” (not the specific, singular (“**the piece**” of) content being scored).

Petitioner also argues that it is irrelevant that Dumais does not discuss email fields (e.g., TO: and CC: fields). Reply,24. But the reason PO discussed email fields was because Petitioner’s expert opined that Dumais “contemplates” “identifying all of those receiving an email message **based on inclusion in the TO or CC fields.**” EX1003,¶121. PO pointed out that this argument is entirely unsupported by any disclosure in Dumais. Resp.,54; EX2029,¶138. But even if Petitioner’s expert had not raised the issue of email fields, the discussion of email fields would be relevant because, to “*identify*” another “*recipient*” of one of Dumais’ “emails,” the system would need to consider who else received that same email that the first user received. One way to do that would be to look at the fields in the email that the first user received to see **who else** is listed in the TO/CC/BCC fields. But Dumais does not do that. Of course, Dumais also does not disclose, teach, or suggest **any other** method

of “*identify[ing]*” another “*user*” that is “*a recipient*” of the same content the first user received (“***the** piece of content*”). Nor does it teach the desirability of, or the math required, to do so.

2. “*identify[ing]*” another “*user*” “*that is ... cognate to the [first] user.*”

Importantly, the “*identify...*” limitation requires identifying another user(s) that **not only** is “*a recipient*” of the same piece of content that the first user received, **but also** must be “*cognate to the [first] user.*” Dumais does not teach or disclose this limitation.

The reason the ‘217 Patent “*identif[ies]*” other users that are “*cognate to the first user*” is because the actions of the first user’s “*cognate*” group (e.g., other employees in the same department) may be more relevant to the first user than the actions of the global population (e.g., everyone the first user works with). See EX1001,12:55-58 (“if the vast majority of the users in a given department read a piece of content sent globally, then the content is likely to be relevant to another user in that department”). PO has explained this purpose not to impose on Dumais some improper requirement, as Petitioner contends (Reply,25-26⁷), but rather to provide background on **why** the “*identify*” limitation is important.

⁷ The subsequent step of tracking the actions of other “*cognate*” “*users*” is optional. E.g., EX1001,Cl.1.

Petitioner concedes that Dumais does not **expressly** teach or disclose “*identify[ing]*” another “*user*” that is “*cognate to the [first] user.*” Reply,25 (arguing that a POSITA “**would have understood**” that “Dumais identifies a cognate user”). In addition, none of the passages that Petitioner cites from Dumais suggests, or renders obvious, this limitation.

For the “*cognate*” limitation, Petitioner again relies upon collaborative filtering in Dumais. Reply,24-25. It is true that Dumais teaches using collaborative filtering to create “groups of individuals” based upon “similarity computations,” which can consider similar “usage of items.” EX1005,[0052]. This group of individuals could be considered a group of “*cognate*” users, as PO’s expert acknowledged. *See* Reply,25-26 (citing EX1040,221:7-10). That does not mean, however, that Dumais “**identiffies]**” another “*user*” that is “*cognate to the [first] user,*” as the ‘217 Patent requires. In particular, Dumais never “*identiffies]*” whether users in a group are “*cognate to the [first] user*” for which relevancy is being determined. For example, collaborative filtering in Dumais never considers whether **the first user** doing the searching is even a part of **any** group. *Supra*,18&19.

Petitioner insists that collaborative filtering in Dumais is just like collaborative filtering in the ‘217 Patent. Reply,25. But there is a significant difference: in the ‘217 Patent, a “*cognate*” group is “*identiffied]*” **for each user.** *E.g.*, EX1001,14:62-64 (“**[F]or each user,** over time, the system may identify a

cognate group of the n other users regarded as most similar.”); *id.*:25:65-67 (same); *id.*:15:1-3 (“**each recipient may have their own cognate group** of those the system regards as most similar to that recipient.”); *id.*:31:6-7; *id.*:33:59-61. Because the ‘217 Patent identifies a cognate group **for each user**, the ‘217 Patent can “*identify*” other “*user(s)*” that are “*cognate to the first user*”. EX1005,[0052],[0055]. In stark contrast, Dumais does **not** create “*cognate*” groups **for each user**. Instead, collaborative filtering in Dumais groups together similar users to create a user profile/model that new users can use to search. EX1005,[0052].

Finally, and critically, Dumais contains no disclosure, teaching, or suggestion to identify another “*user*” that is part of **both** groups – i.e., (1) a group of users with “similarities” or similar “usage of data items” as the first user (“*cognate*”) **that also** (2) received the same piece of content as the first user (“*a recipient*”). Reply, 24-25. Moreover, even if Dumais’ group of with similar “usage of data items” could be considered a group of both “*recipients*” (of those items) and “*cognate*” “*users*,” that does nothing to address numerous problems addressed above, including that (1) Dumais does not consider whether **the first user** doing the searching (for which a relevancy score is being determined) is even in the group; (2) Dumais’ group of users with similar “usage of data items” is not a group of users that received **the piece** of content being scored **for the first user**; and (3) Dumais’ creation of this group is not

part of “*determining a relevance score*” for a piece of content (collaborative filtering occurs before a search is even conducted). *Supra*,20.

III. SECONDARY CONSIDERATIONS OF NON-OBVIOUSNESS

Addressing PO's evidence of secondary considerations of non-obviousness, Petitioner contends that PO fails to show that Meta's and X's products “practice the Challenged Claims.” But PO submitted the Complaints from the federal litigations, in which PO laid out the allegations as to why the products meet all of the limitations, and PO cited specific publications citing Meta and X describing their products, showing that the products use the key features of the '217 Patent. Resp.,57-58. Thus, PO has shown “nexus.”

Petitioner also contends that “[f]or long-felt but unresolved need and recognition of the problem being solved, PO relies only on conclusory statements from the '217 patent itself.” Reply,27-28. But PO also cited evidence including Meta's CEO's statement acknowledging the problem of “missing important stuff” (Resp.,59 & EX2082) and Twitter's senior engineer's acknowledgement that part of the problem being solved was that users could “miss the tweets that may matter most to them” (Resp.,59 & EX2081).

Finally, Petitioner argues that “PO relies on concepts that were already known in the prior art,” but Petitioner does not identify what “concepts” it is referring to as being already known. Reply,27-28. To the extent that Petitioner is addressing PO's

evidence of “long-felt but unresolved need and recognition of the problem being solved,” of course those problems existed in the prior art. The ‘217 Patent inventions were needed precisely for that reason: to address those problems in the prior art.

Respectfully submitted,

Dated: April 1, 2026

By: /Devan Padmanabhan/

Devan Padmanabhan

Lead Attorney for Patent Owner

Reg. No. 38,262

PADMANABHAN & DAWSON PLLC

9800 Shelard Parkway, Suite 120

Minneapolis, Minnesota 55441

Telephone: 612-444-3377

Email: devan@paddalawgroup.com

Attorney for Patent Owner

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. 42.6(e), I certify that on this 1st day of April, 2026, a true and correct copy of the foregoing **Patent Owner's Sur-Reply** was served by electronic mail on Petitioner's lead and backup counsel at the following addresses:

PERKINS COIE LLP
Jessica Kaiser
Sarah Fowler
Meta-Sterling@perkinscoie.com
kaiser-ptab@perkinscoie.com
stahnke-ptab@perkinscoie.com

By: /Devan Padmanabhan/

Devan Padmanabhan (Reg. No. 38,262)
devan@paddalawgroup.com
Padmanabhan & Dawson, PLLC
9800 Shelard Parkway, Suite 120
Minneapolis, Minnesota 55441
Telephone: 612-444-3377