

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

META PLATFORMS, INC.,
Petitioners

v.

STERLING COMPUTERS CORPORATION,
Patent Owner.

IPR2025-00430

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

PETITIONERS' REPLY TO PATENT OWNER'S RESPONSE

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EXHIBIT LIST

Ex No.	Shorthand	Reference
1001	'217 Patent or Marston	U.S. Patent No. 7,716,217
1002	'217 Patent File History	File History of the '217 Patent
1003	Fox Decl. or Fox	Declaration of Dr. Edward A. Fox in Support of Petition
1004	Fox CV	<i>Curriculum Vitae</i> of Dr. Edward A. Fox
1005	Dumais	U.S. Pat. App. Pub. No. 2007/0016553 A1 to Dumais, et al.
1006	Rose	U.S. Pat. No. 6,202,058 B1 to Rose, et al.
1007	Bieganski	U.S. Pat. No. 6,334,127 to Bieganski, et al.
1008	Lesk	Michael Lesk, <i>Understanding Digital Libraries</i> (Elsevier, 2nd ed. 2004)
1009	Arms	William Y. Arms, <i>Digital Libraries</i> (MIT Press, 1st ed. 1999)
1010	Carroll	John M. Carroll, <i>Human-Computer Interaction in the New Millennium</i> (Pearson Education 2002)
1011	Kuniavsky	Mike Kuniavsky, <i>Observing the User Experience: A Practitioner's Guide to User Research</i> (Elsevier 2003)
1012	Shneiderman	Ben Shneiderman, <i>Designing the User Interface: Strategies for Effective Human-Computer Interaction</i> (Addison Wesley 3rd ed. 1998)
1013	User Goals	Daniel E. Rose and Danny Levinson, <i>Understanding user goals in web search</i> , 13–19 (In Proc. WWW '04, Association for Computing Machinery, May 2004)
1014	Teevan	Jaime Teevan, et al., <i>Personalizing Search via Automated Analysis of Interests and Activities</i> , 449-56 (In Proceedings of SIGIR '05)
1015	Miller	Miller, B. et al., <i>Experiences with GroupLens:</i>

Ex No.	Shorthand	Reference
		<i>Making Usenet Useful Again</i> , 219-33 (In Proceedings of the USENIX 1997 Annual Technical Conference)
1016	Claypool	Mark Claypool, et al., <i>Combining Content-Based and Collaborative Filters in an Online Newspaper</i> , (ACM SIGIR Workshop on Recommender Systems, Aug. 1999)
1017	Goldberg	David Goldberg, et al., <i>Using Collaborative Filtering to Weave an Information Tapestry</i> 35:12, 61-70 (Communications of the ACM, Dec. 1992)
1018	Melville	Prem Melville, et al., <i>Content-Boosted Collaborative Filtering for Improved Recommendations</i> 187-92 (In Proceedings of the Eighteenth National Conference on Artificial Intelligence, AAAI-2002)
1019	Beyond Search	Daniel E. Rose, <i>Beyond Search: The Information Access Research Group at Apple</i> , 85-89 (SIGCHI Bull. 30, 2, April 1998)
1020	MessageWorld	Daniel E. Rose et al., <i>MessageWorld: A New Approach to Facilitating Asynchronous Group Communication</i> , 266-73 (Association for Computing Machinery, In Proceedings of the Fourth International Conference on Information and Knowledge Management (CIKM), December 1995)
1021	Herz	U.S. Patent No. 8,799,461 B2 to Herz, et al.
1022	Kim	S. Kim and E. Fox, <i>Interest-Based User Grouping Model For Collaborative Filtering In Digital Libraries</i> , In Proceedings of the 7th International Conference on Digital Libraries (ICADL, Dec. 2004)
1023	Belkin	Nicholas J. Belkin and W. Bruce Croft, <i>Information Filtering and Information Retrieval: Two Sides of the Same Coin?</i> 29-38,

Ex No.	Shorthand	Reference
		Communications of the ACM, 35:12, (Dec. 1992)
1024	Wittenburg	Kent Wittenburg and Eric Sigman, <i>Integration of Browsing, Searching, and Filtering in an Applet for Web Information Access</i> , 22-27 (In Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems, March 1997)
1025	Jung	Seikyung Jung, et al., <i>Applying Collaborative Filtering for Efficient Document Search</i> , 20-24 (In Proceedings of the IEEE/WIC/ACM International Conference on Web Intelligence, September 2004)
1026	Ponte 1	U.S. Patent No. 6,826,559 B1 to Ponte
1027	Ponte 2	U.S. Patent No. 7,047,242 B1 to Ponte
1028	Melton	U.S. Patent No. 9,864,813 B2 to Melton, et al.
1029	Malik	U.S. Pat. App. Pub. No. 2004/0078447 to Malik, et al.
1030	McKeogh	John McKeogh and Chris Exton, <i>Eclipse plug-in to monitor the Programmer Behaviour</i> , In Proceedings of the 2004 OOPSLA Workshop on Eclipse Technology eXchange (Eclipse '04), 93–97 (Association for Computing Machinery, New York, NY October 2004)
1031	Rich	Charles Rich, et al, <i>A Plug-in Architecture for Generating Collaborative Agent Responses</i> , 782–89 (In Proceedings AAMAS '02, Association for Computing Machinery, New York, NY)
1032	Domingue	John Domingue, et al. <i>Magpie: Supporting Browsing and Navigation on the Semantic Web</i> , 191–97 (In Proceedings IUI '04, Association for Computing Machinery, New York, NY, 2004)
1033	Cöster	Rickard Cöster & Martin Svensson, <i>Inverted File Search Algorithms for Collaborative Filtering</i> , 246–52 (In Proceedings SIGIR '02, Association

Ex No.	Shorthand	Reference
		for Computing Machinery, New York, NY, 2002)
1034	Heath	Lenwood S. Heath, et al. 1995. <i>Envision: a User-Centered Database of Computer Science Literature</i> . Commun. ACM 38, 4 (April 1995)
1035	Nowell	Lucy Terry Nowell, et al., <i>Visualizing search results: some alternatives to query-document similarity</i> 67–75 (In Proc. SIGIR '96, Association for Computing Machinery, New York, NY) (1996)
1036	Saracevic	Tefko Saracevic, <i>A Review of and a Framework for the Thinking on the Notion in Information Science</i> 321-43 (Journal of the Am. Society for Info. Sci., Dec. 1975)
1037	Meta Dkt.	Docket for <i>Sterling Computs. Corp. v. Meta Platforms, Inc. f/k/a Facebook, Inc.</i> , Case No. 1:24-cv-00551 (W.D. Tex. May 22, 2024)
1038	X Dkt.	Docket for <i>Sterling Computs. Corp. v. X Corp. f/k/a Twitter, Inc.</i> , 1:24-cv-00552 (W.D. Tex. May 22, 2024)
1039	Sotera Stip.	Sotera Stipulation, dated April 30, 2025
1040	Khan Transcript	Transcript of Deposition of Dr. Latifur Khan January 22, 2026
1041	J. Marston Transcript	Transcript of Deposition of Mr. Justin Marston, January 23, 2026
1042	P. Marston Transcript	Transcript of Deposition of Mr. Paul Marston January 26, 2026
1043	J. Marston -299 Transcript	Transcript of Deposition of Mr. Justin Marston in IPR2025-00299
1044	Khan -299 Transcript	Transcript of Deposition of Dr. Latifur Khan in IPR2025-00299
1045	Fox Reply Declaration or Fox.Supp.	Reply Declaration of Dr. Edward A. Fox

I. INTRODUCTION

The Petition (“Pet.,” Paper 2) shows the Challenged Claims are unpatentable by a preponderance of the evidence. PO’s Response (“POR,” Paper 18) does not undermine that showing. Specifically, the POR largely rehashes the disputes the parties had prior to institution, without meaningfully adding to the record. PO also focuses on ways it wishes the Challenged Claims had been drafted, by focusing on the alleged purpose of certain limitations rather than what those limitations actually require. And many of those arguments are immaterial because the prior art teaches the limitations, even under PO’s incorrect constructions. Further, PO’s attempt to antedate Dumais should be rejected. The Board should find the Challenged Claims unpatentable.

II. CLAIM CONSTRUCTION¹

For claim construction, PO argues (1) the “module” limitations are not means-plus-function (“MPF”), (2) it does not seek to include either requirement for “cognate to the user” the Board addressed at institution, and (3) “recipient” requires a user that has received a piece of electronic content sent from a “sender.” Here, Petitioner briefly addresses the first two for completeness, but the Board need only

¹ PO adopted the Board’s definition of a POSITA (i.e., Petitioner’s definition). POR, 13-14; DI, 7-9.

address (3) to resolve the controversy in its Final Written Decision.² *FoxSupp.* (EX-1045), ¶7.

As to (1), the Board need not resolve this dispute because the prior art renders the challenged claims obvious regardless. *See* Institution Decision (“DI,” Paper 14), 10-11; Pet. 11-16; EX-1003, ¶73; *FoxSupp.*, ¶8.

As to (2), PO abandons its pre-institution additional requirements for a “cognate” user that the Board rejected at institution. DI, 14-16. Notably, PO admits “tracking the actions of the second, cognate user is optional in the claims.” POR 18; *FoxSupp.*, ¶¶9-11.

Finally, as to (3), PO argues a “recipient” is limited to “a user that has received a piece of electronic content sent from a sender.” POR 18-19 (emphasis omitted). The Board should not limit this term to require “sent from a sender.”

Specifically, the claims are not limited to messages with “senders,” reciting an “application for managing electronic content,” where “electronic content” encompasses “an email, a document, an instant message, and an SMS message.” *E.g.*, EX-1001, cls. 1, 5; *id.*, 3:46-48, 3:54-56, 5:28-33. Indeed, PO’s construction would also exclude ’217 embodiments, such as where each document is centrally

² PO does not challenge that Rose meets the “recipient” limitation in 1[f], even under its construction. POR 37-41; Khan Tr., 185:6-13.

managed according to a “compliance model.” *Id.*, 3:46-48, 3:54-56, 5:28-33; *FoxSupp.*, ¶¶12-16; *Sequoia Tech., LLC v. Dell, Inc.*, 66 F.4th 1317, 1327 (Fed. Cir. 2023) (“A claim construction excluding a preferred embodiment is rarely, if ever correct.”).

III. THE CHALLENGED CLAIMS ARE UNPATENTABLE

A. Ground 2: Rose

PO argues Rose does not teach: (1) 1[h] because Rose’s relevance score is purportedly not determined based on the first determined measure of relevance, which in 1[d] is “based at least in part on one or more actions of the user on the piece of electronic content” or (2) 1[f] because Rose does not identify a “subset” of other users that are cognate to the first user.³ POR, 22-23, 27-41. PO’s arguments should be rejected. *FoxSupp.*, ¶17.

1. Rose’s Relevance Score Is Based on User Actions on the Piece Of Electronic Content (1[d]/[h])

The Board correctly recognized Rose predicts a user’s interest in electronic content based on (1) “the similarity between a document vector and the user’s profile vector,” and (2) “correlating indications provided by other users.” DI, 17. Rose

³ PO does not dispute that Rose teaches all other claim limitations including the “recipient” portion of 1[f], even under PO’s incorrect construction. POR 37-41; *Khan Tr.*, 185:6-13.

discloses updating the user's "profile vector" in response to a user's actions on electronic content. EX-1006, 6:36-40 ("Each user profile also comprises a vector, based upon the user's indications as to his or her relative interest in *previously retrieved* documents. Each time a user provides a new response to a retrieved message, *the profile vector is modified* in accordance with the results.") (emphasis added). Rose discloses at least two "first measure[s] of relevance": (1) the user's profile, including a user's profile vector, and (2) a score of the document's relevance (based on a comparison of the user's profile vector and the document's vector). Pet. 54-55. Thus, when Rose presents content to the user with rankings, those rankings reflect an overall relevance score based on the user's actions on that content. Pet. 54-56, 60-61; DI, 22; EX-1003, ¶¶181-84, 194-96; *FoxSupp.*, ¶18.

PO argues Rose seeks to "predict[]" whether items will be relevant, which means it "does not use the first user's own actions on an item to determine the item's relevance score." POR 27-32. Similarly, although PO concedes Rose updates a user's profile after the user rates content, PO argues Rose does not update the content's "relevance score" based on the user's updated profile. *Id.*, 36-37; *FoxSupp.*, ¶19.

The Board already preliminarily rejected these arguments (DI, 20-22), and nothing in the POR or its cited evidence supports otherwise. Rose teaches it ranks and displays email messages "according to their likely degree of relevance...with an

indication of their relative ranking.” EX-1006, 2:25-35. Rose further ranks “*all* of the messages addressed to that user.” *Id.*, 4:40-59, 5:24-30, 6:6-57, Fig. 5B; *FoxSupp.*, ¶20; DI, 22, 25-26.

PO rehashes this argument but does not undermine Petitioner’s showing for 1[d]/1[h]. For example, PO’s expert admits that, in Rose, “the first user’s ‘actions’ ‘on the piece of electronic content’ can be used to adjust the first user’s profile” (EX-2001, ¶138), but he disputes the updated profile is used to update the relevance score for that same document (*id.*, ¶¶140, 150; EX-2029, ¶169). This testimony ignores Rose’s express teachings and how a POSITA would have understood them. *FoxSupp.*, ¶¶21-22.

PO infers that because Rose discusses “**predicted** degree[s] of relevance” and “**likely** degree[s] of relevance,” it never evaluates the relevance of content a user has already rated. POR 32-33 (emphases original).⁴ That is not how a POSITA would have understood Rose. *FoxSupp.*, ¶23.

First, Rose teaches a user’s profile vector is updated “[e]ach time a user provides a new response to a retrieved message”; thus, because the content’s

⁴ Rose is not limited to email, referring to documents on “bulletin board systems” or “search results obtained through an on-line text retrieval service”—it does not distinguish content based on whether it has been read. EX-1006, 2:51-57.

relevance score is determined by “the similarity between the document’s vector and the user’s profile vector,” Rose teaches updating the content’s relevance score based on the user’s responses. EX-1006, 4:51-53, 6:38-40 (“[A]ll of the messages to be provided to the user are ranked.”), 6:51-53, cl. 1 (repeating ranking “for each item of information to be presented”); *FoxSupp.*, ¶24.

Second, a POSITA would have understood “predicted” and “likely” in this context merely reflect that a computer calculates an approximation of content’s relevance. *FoxSupp.*, ¶25; Khan Tr., 118:19-23. Indeed, the ’217 patent itself refers to “relevance” as “reflecting a user’s likely interest in the content.” EX-1001, 5:53-55, 8:3-12; Khan Tr., 121:1-10. These terms do not suggest Rose evaluates only previously unranked content, as PO argues.

Third, Rose’s mention of “items of information to be presented to the user” does not support PO’s arguments. POR 33. Indeed, the Board already preliminarily found the evidence shows otherwise (DI 22 (citing EX-1006, 4:40-59)). Khan Tr., 167:15-169:2; EX-1006, cl.1 (calculating relevance “for each item” to be presented to the user, without limitation to unranked items); *FoxSupp.*, ¶26.

Finally, a POSITA would have understood the advantages of re-ranking items and that Rose (with its community-based feedback) does so. *FoxSupp.*, ¶¶27-30. To argue otherwise, PO raises a hypothetical where a user is recommended content related to a “cat café,” despite the user initially rating that content negatively. POR

34-35. But this is far from an “absurd result[],” as PO alleges, and in fact could be intentional. *FoxSupp.*, ¶27. A POSITA would have understood that overcoming a user’s initial rating based on community feedback is often desirable. *Id.* Indeed, recommendation engines often provide their greatest value when recommending content the user may not otherwise have found (e.g., if, unbeknownst to the user, the cat café also has puppies, which the user loves). *Id.*; EX-1007, 5:13-25 (“Serendipity occurs when a user makes a pleasant discovery that would not normally have been made.”). Even PO’s expert provided an example where a system would re-rank content to check if the estimated relevance matches the user’s current thinking. Khan Tr., 118:24-119:19. Thus, in addition to being consistent with Rose’s express disclosures, a POSITA would have recognized Rose re-ranking already rated content would be beneficial, not “absurd.” *FoxSupp.*, ¶¶27-28.

2. Rose Teaches Identifying a Cognate User (1[f])

For 1[f], PO concedes Rose uses “correlation-based predictions (i.e., predictions based upon other users’ feedback)” that are “based upon community feedback—i.e., “indications provided by other users.” POR 28 (emphasis original). PO also concedes Rose considers feedback “from all other users that have rated the item that is going to be presented to the first user” (*id.*, 37), confirming they received the same content as the first user. Nevertheless, PO argues Rose does not teach 1[f] because it does not identify “a subset of users—i.e., only those users that are

‘cognate to the [first] user.’” *Id.* (emphasis original). PO is incorrect. *FoxSupp.*, ¶31.

First, the Challenged Claims require identifying “*at least one other...user[]...that is cognate*” (EX-1001, cl.1), and do not preclude considering feedback from “all other users” that have rated the item because “at least one” means “one *or* more than one,” which encompasses “*all other users.*” *Rhine v. Casio, Inc.*, 183 F.3d 1342, 1345 (Fed. Cir. 1999); *FoxSupp.*, ¶32.

Second, Rose teaches identifying users with similar interests based on their feedback on content. EX-1006, 5:57-60 (using user feedback to “provide information to rank that movie for viewing by other *users whose interests in movies are similar or opposed*”), 6:61-7:1, 7:43-47 (using “regression” to identify “users having similar feedback responses”). PO argues these citations are “misleading” (POR 39-40), but PO’s own expert agreed these passages describe identifying cognate users. Khan Tr., 187:7-13, 193:15-24, 194:17-195:2. Thus, Rose identifies particular cognate users, e.g., users with similar/opposed “interests” and/or “feedback responses,” consistent with the ’217 patent. *FoxSupp.*, ¶33; EX-1003, ¶187; EX-1001, 14:59-66 (“cognate” users can be based on “similar past user actions and assessments”).

PO’s arguments for 1[f] focus on feedback from cognate users, but considering those actions as part of 1[g]’s second relevance score is optional, as PO

admits. POR 18 (“[T]his step of tracking the actions of the second, cognate user is optional in the claims.”). All that 1[f] requires is identifying an “other...user” who is “cognate” to the first user, which Rose teaches. EX-1006, 5:57-60, 7:43-47; Khan Tr., 182:11-14, 194:21-23; *FoxSupp.*, ¶34.

Third, PO challenges Petitioner’s argument that even if Rose “does not explicitly identify a group of users based on [Rose’s] correlation[s],” Rose renders 1[f] obvious. POR 41; Pet. 58. PO appears to misunderstand the Petition, which explains that one way Rose suggests performing this identification is using correlation values. Pet. 58 (citing EX-1003, ¶188; EX-1022; EX-1033). Regardless, Rose teaches grouping users by their “interests” and/or “feedback responses” (*identify[ing] at least one other...user[]...that is cognate*). EX-1006, 5:57-60, 7:35-50; Khan Tr., 193:20-24. Thus, Rose renders 1[f] obvious. *FoxSupp.*, ¶¶35-37.

B. Ground 3: Rose-Bieganski

In Ground 3, the Petition explains “a POSITA would have modified Rose’s second relevance module based on Bieganski’s teachings,” and specifically “to improve predictions by organizing users into neighborhoods based on their prior indications.” Pet. 69-76. PO focuses its Ground 3 arguments on motivation to

combine. POR 42-44.⁵ The Board preliminarily concluded Petitioner had shown motivation to combine, citing that both references are “concerned with recommending content to a user based on other users’ content preferences,” where Bieganski would improve Rose by disclosing “an improved technique for selecting which other users’ preferences are considered in a recommendation.” DI, 28-30; *FoxSupp.*, ¶38.

PO does not directly challenge the Petition’s explanations for why a POSITA would have been motivated to combine Rose and Bieganski (Pet. 69-73), arguing instead that the Petition ignores the reasons why a POSITA would not have been motivated to combine them. POR 43-44. Specifically, PO argues a POSITA would not look to Bieganski because it is “directed to a different type of content”⁶ and “combining Rose and Bieganski would not be as simple of a change as Petitioner and its expert suggest.” *Id.*, 44 (citing EX-2029, ¶202); *FoxSupp.*, ¶39.

⁵ PO also argues the combination does not teach determining the relevance score based on actions of the first user (POR 42), but as discussed in §I.A.1, Rose teaches those limitations.

⁶ The Board already correctly determined Bieganski is analogous art (DI, 29), which PO does not appear to dispute.

At institution, the Board correctly rejected both arguments. DI, 29-30. First, Bieganski and Rose involve the same kinds of electronic content because Bieganski is *not* limited to non-textual content. DI, 29; EX-1007, 17:44-50. PO argues that Bieganski’s textual content would not be “sent from a sender to a user.” POR 44. This argument, however, improperly attacks the references individually, and does not address the combination proposed by the Petition, namely, a “POSITA would have been motivated to improve upon Rose’s ‘correlation’ of users by grouping them into neighborhoods, as discussed in Bieganski.” Pet. 71; Khan Tr., 206:10-15 (agreeing Rose teaches “content that is sent from a sender”), 208:11-14 (agreeing Rose-Bieganski combination does not rely on Bieganski to teach content sent from a sender). Because Rose teaches content “sent from a sender to a user” and Rose in the Rose-Bieganski combination groups users into neighborhoods, Bieganski’s precise type of content is irrelevant to the proposed combination. *FoxSupp.*, ¶40.

Second, the Board preliminarily rejected PO’s reasonable expectation of success argument (POR 44), i.e., that implementing Bieganski’s “minimum neighbor similarity” and “maximum neighborhood size” would not be simple. DI, 30 (“The threshold selections in Bieganski are numerical parameters used to optimize recommendations....[S]electing a number to optimize recommendations is within the ability of a skilled artisan.”); EX-1003, ¶¶232-37 (explaining “[c]ombining Rose and Bieganski in this way would be a simple change”).

Following institution, the only evidence PO points to support its reasonable expectation of success argument is a conclusory statement from its expert, which is not entitled to weight. POR 44 (citing EX-2029, ¶202); *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9, 15 (Aug. 24, 2022) (precedential). The Petition’s explanation, as supported by evidence, shows a reasonable expectation of success. Pet. 72-73; EX-1006, 6:51-7:6; EX-1007, 5:26-29, 7:8-27; EX-1003, ¶¶236-37; *FoxSupp.*, ¶¶41-45.

C. Ground 1: Dumais

1. Dumais Is Prior Art

Applicant filed the ’217 patent’s provisional application on January 13, 2006 (EX-1001, Cover (60)) and its non-provisional application on January 16, 2007 (*id.*, Cover (22)). Dumais (EX-1005) facially qualifies as prior art because it was filed *before both* applications on June 29, 2005. 35 U.S.C. §102(e); Pet. 2.

When a patentee attempts to “antedate an asserted prior art reference,” the patentee assumes “a temporary burden of production.” *Parus Holdings, Inc. v. Google LLC*, 70 F.4th 1365, 1371 (Fed. Cir. 2023). This burden “cannot be met without some combination of citing the relevant record evidence with specificity and explaining the significance of the produced material in briefs.” *Id.*, 1372. As discussed below, PO has not met this burden.

**a. PO Has Not Shown Conception By the Inventors Before
Dumais**

**(i) The Alleged Conception Evidence Is
Uncorroborated**

To show conception before Dumais, PO relies on inventor declarations (EX-2003, -2015, -2030, -2031) and certain “Conception Documents” (EX-2004, -2006). To prove conception, there must be corroborating evidence, “in addition to [the inventor’s] own statements and documents.” *Apator Miitors ApS v. Kamstrup A/S*, 887 F.3d 1293, 1295 (Fed. Cir. 2018) (internal quotation marks and citation omitted). “[E]vidence of corroboration must not depend solely on the inventor himself.” *Id.*

The Conception Documents lack any indication the Marstons authored them. Specifically, those documents repeatedly omit the author, listing only a period (“.”). POR 46 (describing EX-2004, 2006); EX-2004, 35; EX-2006, 61; P. Marston Tr. (EX1042), 73:15-74:6, 81:25-83:12; J. Marston Tr. (EX1041), 179:18-186:19. Thus, these documents do not corroborate conception by the Marstons.

In addition, PO cites only EX-2014 as showing its “Conception Documents disclose each limitation of the Challenged Claims.” POR 45. Not only should that document be disregarded as improper incorporation by reference (37 C.F.R. §42.6(a)(3)), but it deserves no weight as unsupported attorney argument. J. Marston

Tr., 311:9-19 (stating he did not prepare EX-2014)⁷; *Invitrogen Corp. v. Clontech Labs., Inc.*, 429 F.3d 1052, 1068 (Fed. Cir. 2005) (“Unsubstantiated attorney argument regarding....evidence [of conception] is no substitute for competent, substantiated expert testimony.”).

(ii) Others Contributed to Conception

Conception is complete “only when the idea is so clearly defined in the *inventor’s* mind that only ordinary skill would be necessary to reduce the invention to practice.” *Dawson v. Dawson*, 710 F.3d 1347, 1352 (Fed. Cir. 2013) (emphasis added). Here, the complete conception was not a product only of the inventors. For example, both inventors confirm—and their cited evidence shows—at least *six* non-inventors contributed to the invention before and after the alleged conception: Jon Fernyhough, Tim Couper, Rick Turner, Tony Morton-Jones, and two persons

⁷ In IPR2025-00299, Justin Marston testified he created EX2014, but he contradicted that statement in this IPR. EX-1043, 201:3-13. Regardless, Justin Marston never cited EX2014 in any of his declarations in either IPR, and he is not a POSITA. J. Marston Tr., 329:17-332:18; *Kyocera Senco Indus. Tools Inc. v. Int’l Trade Comm’n*, 22 F.4th 1369, 1376-77 (Fed. Cir. 2022) (requiring witnesses offering expert testimony from perspective of skilled artisan to possess “ordinary skill in the art”).

identified as Yul and Debs. Thus, Dumais remains prior art because the unresolved idea of the invention was spread across the minds of at least six other people contributing before and after June 29, 2005.

For example, the Marstons relied on others with the requisite computing skills to fully conceive the computer-implemented invention. J. Marston Tr., 316:9-14. Neither named inventor could implement the math on a computer (J. Marston Tr., 194:15-195:7, 195:11-13; EX-2075; EX-2018). By necessity, they collaborated with Jon Fernyhough, a senior software programmer at BlueSpace (not named as an inventor), through at least October 15, 2005 to develop the code and section 11—titled “Software Implementation”—of the ’217 Patent Provisional Application. EX-2030, ¶29; EX-2045, 72; EX2057, 1-5 (“Software Implementation” authored by Jon Fernyhough on 8/18/2005); EX2071, 1-3 (10/15/2005 edits asking “how should recalculation to cognate relevance be done?” and stating “[o]bviously I don’t know how easy it would be to program”), 3 (last modified 10/15/2005); J. Marston Tr., 315:8-14, 316:16-318:5; P. Marston Tr., 37:22-38:13, 82:19-12, 101:11-102:2; 134:20-136:13. Indeed, Jon Fernyhough was one of the ’217 patent’s contributors “involved in reducing innovation to practice” (J. Marston Tr., 317:16-319:12), and several of PO’s exhibits record *Mr. Fernyhough* as the author (EX2056-2058).

Others contributed to conception by addressing technical aspects of the relevance statistics and white paper draft. For example, as early as August 2004

Tony Morton-Jones counseled Paul Marston—as both a close friend and Cambridge-trained statistician—on the relevance formula and its use of the Gauss-Seidel algorithm incorporated into the '217 patent. EX-2047, 4, 7 (“TransmailRelevanceFormula1.doc” authored by Tony Morton-Jones created on 8/10/2004); EX-1001, 32:54-67; P. Marston Tr., 65:10-20. BlueSpace Chief Technology Officer Rick Turner and consultant Tim Couper also contributed to some of the original formulations (including the Gauss-Seidel algorithm) soon thereafter. EX-2048, 2, 4-5 (Rick Turner September 13, 2004 edits); EX-2050, 1-2 (May 17, 2005 Tim Couper edits); J. Marston Tr., 357:18-358:22, 350:7-351:4; P. Marston Tr., 149:10-21, 82:19-83:12. The Marstons agreed that “Yul and Debs” should review the user interface section of the whitepaper in October 2005. EX-2065, 31, 100; P. Marston Tr., 123:18-125:1. Undeniably, these contributions to conception extended beyond the minds of the listed co-inventors.

**(iii) PO’s Documents Show Conception After
Dumais**

BlueSpace documents confirm the inventors did not complete conception of the invention by June 7, 2005. The math and “algorithms” sections of the Conception Documents state: “INITIAL MATHS HAS BEEN DRAFTED WITH A MATHEMATICIAN, BUT IS IN NEED OF SIGNIFICANT CHANGES.”

EX2004, 29; EX2006, 53.⁸ That “algorithms” section was significantly re-written in August 2005 (EX2022). *Compare* EX-2006, 52-56 (five crude pages of BlueSpace white paper starting with “Brain Dump” in algorithm section), 61 (last modified 6/7/2005) *with* EX-2007, 55-63 (9 pages of significantly expanded and refined formulas and explanation), 65-72 (8-page addition of “Software Implementation” section), 77 (last modified 8/16/2005). EX-2053 (last modified September 2005) further shows the underlying subject matter remained in flux, as does Jon Fernyhough continued involvement from August-November 2005. EX-2053, 1 (“Add to Main Text Somewhere” and “Add to Formulae”); EX-2031, ¶20 (discussing EX-2053); EX-2056-2058; EX-2071, EX-2070, EX-2065-2069. Such “continued work” shows there was not complete conception before Dumais. *Dawson*, 710 F.3d at 1353.

Moreover, PO’s two produced document logs (EX-2041-2042) confirm the inventors’ early work related to altogether *different* inventions than the ’217 patent. *Compare* EX2042, 3 (correspondence regarding secure messaging starting 8/17/2005, tamper-proof messaging and compliance policy enforcement starting 8/22/2005), 9 (email structuring on 9/19/2005), 11 (generating relational structure for non-relational messages on 11/1/2005), *with id.*, 16 (first correspondence

⁸ The metadata for EX-2004-2013 is found in EX-2019-2028.

regarding BlueSpace Mail *Relevance* on 1/11/2006). Indeed, Justin Marston confirmed that most of the listed documents related to other patents, not the '217 patent. J. Marston Tr., 238:12-16, 240:15-21, 275:4-13, 277:8-13. That these logs do not reflect work specific to the '217 patent until January 2006 further confirms the inventors lacked a concrete idea of the invention until long after their purported conception date. EX2042, 16.

Because PO has not shown a conception date prior to June 29, 2005, Dumais remains prior art.

(iv) PO's "Conception Documents" Do Not Disclose 1[f]

As discussed in §III.C.1(i), the Board should disregard PO's only alleged support that the Conception Documents disclose each limitation of the Challenged Claims (EX-2014) as improper incorporation by reference and unsupported attorney argument. Even if the Board considers EX-2014, PO's arguments for 1[f] as to the Petition's grounds are inconsistent with its arguments about the Conception Documents.

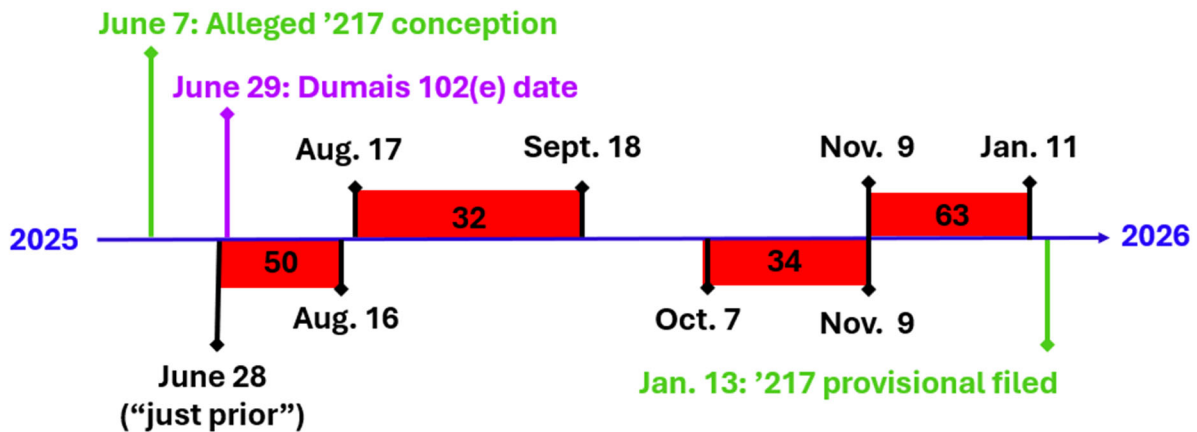
In particular, PO contends six passages from the Conception Documents demonstrate complete conception of 1[f]. EX2014, 5. But PO's own expert testified—in IPR2025-00299—that similar specification passages do not disclose that limitation because they focus only on "cognate" users and ignore whether such

users are “recipients” of the same content. EX1044, 114:8-115:20; 123:3-131:21 (discussing EX-1001, 8:23-25, 43:30-37, 12:50-59, 14:45-67). For example, PO cites EX2006, 22, which describes assigning an initial relevance value to a “new entity” (person) based on a “tree structure” (EX2014, 5), but Dr. Khan testified this tree structure does not disclose the “recipient” limitation in 1[f]. EX1044, 129:10-13.

b. PO Has Not Shown Adequate Diligence

An inventor must “account for the *entire period* during which diligence is required” with specific dates and facts. *Creative Compounds, LLC v. Starmark Labs.*, 651 F.3d 1303, 1312-13 (Fed. Cir. 2011) (quoting *Gould v. Schawlow*, 363 F.2d 908, 919 (CCPA 1966)). Here, PO relies on the January 13, 2006 filing of its provisional application as constructive reduction to practice (POR 49), and must show diligence from just before Dumais’ effective date (June 29, 2005) through the invention’s reduction to practice, a period of nearly 200 days. *Perfect Surgical Techniques, Inc. v. Olympus Am. Inc.*, 841 F.3d 1004, 1007 (Fed. Cir. 2016).

PO’s initial evidence failed to account for nearly 179 days (red) or approximately 90% of the relevant period, as detailed below:



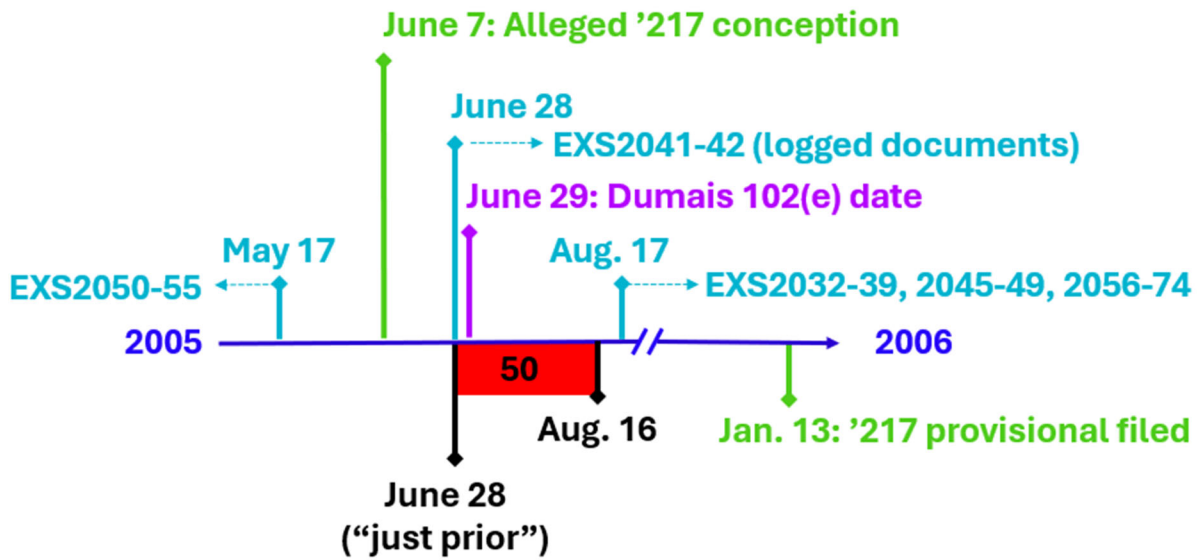
Gap	Days	Evidence
1	50 ⁹	EX2006, 61; EX2007, 77
2	32	EX2009, 78; EX2010, 95
3	34	EX2012, 95; EX2013, 3
4	63	EX2013, 3; EX2003, ¶12

Id. Because these gaps “reasonably raise questions regarding gaps in Patent Owner’s diligence,” the Board invited PO to provide more evidence. DI, 34. PO responded by submitting additional exhibits (POR 49-50 (citing EX-2032-2074, 2076-2078), but PO failed to explain how this evidence shows diligence during these gaps. Notably, PO summarily concludes that 52 documents (EX2019-28, 2032-39, 2043-76) and two logs collectively referencing hundreds of documents (EX2041, 2042) support PO’s diligence. POR, 45, 49-50. PO does not satisfy its burden of

⁹ PO must account for 50 of the 70 days in the gap confirmed by the metadata in EX2006, 2007.

production by requiring the Board to “sift through hundreds of documents, thousands of pages, to find the relevant facts.” *Parus*, 70 F.4th at 1371-1372; *Costar Realty Info., Inc. v. Clantech, Inc.*, IPR2022-00800, Paper 77, 29-30 (PTAB Nov. 16, 2023) (burden of production not met by sparse citations to 112 exhibits). For instance, many of the logged documents—particularly those prior to January 11, 2006—are unrelated to the ’217 patent. EX2041; EX2042; J. Marston Tr., 232:11-13, 235:7-260:5 (agreeing he “can’t say whether any of the patents that were [] in Exhibit 2042 prior to page 16[’s] [January 11, 2006 entry] are specific to the 217 patent”), 275:4-277:13 (identifying no documents in EX2041 that “specifically relate to the ’217 patent”). Petitioner further addresses clear gaps in PO’s diligence evidence below.

The first gap of 50 days (June 28-August 16) supports a lack of diligence. *See In re Meyer Mfg. Corp.*, 411 F. App’x 316, 319 (Fed. Cir. 2010) (affirming Board’s determination that patent owner failed to show diligence given “unexplained gap of just over two months”). PO’s post-institution evidence either fails to fill this gap or is irrelevant because it is not specific to the ’217 patent. POR 49-50 (citing EX2030-2031 (declarations of J. Marston and P. Marston), EX-2041 (log of BlueSpace work), EX-2042 (log of privilege communications), EX-2032-74, EX-2076-78 (P. Marston background)). For example, as shown below, the only evidence between June 7 and August 16 are logged documents not specific to the ’217 patent.



Id.; see also *id.*, vi-vii (POR Table of Contents with Exhibit dates); EX2032-39, 2050-74. EX-2043-45 are allegedly versions of EX-2010 dated Oct. 6, 2005,¹⁰ but they lack any associated metadata to confirm this date. EX-2043-45; POR v, vii.

Similarly, PO never explains the fifty-nine-day gap from November 13 to January 11. Rather, Justin Marston explains that he was working on “BlueSpace” matters related to the “Gefinor investment round,” not the ’217 patent’s invention. EX-2030, ¶¶50-53. Although his declaration cites EX-2042, Justin Marston could not identify any documents in EX-2042 specific to the ’217 patent before the January 11, 2006 email about a “patent application on BlueSpace Mail Relevance.” *Id.*;

¹⁰ PO states that all of EX-2043-45 are versions of EX-2010, which appears to mean these are different versions from the same day.

J. Marston Tr., 257:20-261:6. As with the other gaps in PO's evidence, this two-month gap supports a lack of diligence.

Because PO does not establish reasonable diligence, Dumais remains prior art.

2. Dumais teaches 1[f]

As to Dumais' teachings, PO disputes only whether it teaches 1[f]. POR 51-56. The Board preliminarily agreed with Petitioner that Dumais teaches 1[f], even under PO's proposed constructions. Pet. 31-32; DI, 35-36 (finding Dumais teaches "recipient" under PO's proposed construction), 35-37 (finding Dumais teaches "cognate to the user"). PO provides no reason to deviate from that finding. *FoxSupp.*, ¶46.

a. Dumais teaches "identify[ing]...a recipient" (1[f])

The Board should reject PO's attempt to construe "recipient" to require that content be sent by a "sender." §III.C.2.a. Regardless, Dumais teaches 1[f]. *FoxSupp.*, ¶47.

Specifically, Dumais teaches that "data files" (content) include emails (and other documents sent to a recipient) and e-mail systems. Pet. 31-32 (citing EX-1005, ¶¶31, 36, 56, 65; EX-1003, ¶121). POSITAs would have understood Dumais further suggests identifying content (e.g., email) recipients via collaborative filtering of

other users’ “usage of [emails],” including a user receiving and interacting with the same email as another user. *Id.*; *FoxSupp.*, ¶48.

PO argues Dumais does not discuss “creating a group consisting of both the first user and another user (or group of users) that received the specific piece of content being scored.” POR 53-54. PO is incorrect because (1) Dumais groups users “based on similar usage of items,” and (2) Dumais teaches tracking interactions including “forwarding, replying to, and sending emails”—thus, Dumais teaches users receiving the same email. DI, 35-36; EX-1005, ¶¶22, 31, 52, 55; Pet. 24-25. PO’s argument that Dumais never discusses specific “e-mail fields,” i.e., “TO or CC fields” (POR 54) is irrelevant, given Dumais tracks when files are “forwarded, replied to, [or] sent to,” among other actions. EX-1005, ¶22; *FoxSupp.*, ¶¶49-50; Khan Tr., 220:16-20. PO’s arguments about Dumais’ “purpose” (POR 53-54) do not undercut that it determines relevance of content sent to/from senders, e.g., email. EX-1005, ¶¶22, 31, 52, 55; *FoxSupp.*, ¶¶49-52.

b. Dumais Teaches “identify[ing] at least one other of the plurality of users that is a recipient...and that is cognate to the user.” (1[f])

PO argues that Dumais does not teach *both* (1) identifying another user that is cognate to the first user and (2) a recipient of the electronic content. POR 55. The Petition explains, however, that Dumais identifies other recipients of the same electronic content (*see* §b) that are *also* cognate to the user because Dumais’

personalization component builds “user models” that include “other users” using “collaborative filtering techniques” analyzing similarities among groups of individuals (*cognate users*) based on the content and/or usage of data items (*recipients of electronic content*). Pet. 31 (citing EX-1005, Fig. 5, ¶¶22, 52). Because Dumais discusses measuring the relevance of emails (EX-1005, ¶¶31, 36, 57, 65), a POSITA would have understood that evaluating the similarity in how users “use” items would involve considering users who received the same emails. EX-1003, ¶¶120-121; *FoxSupp.*, ¶53. A POSITA would have understood Dumais identifies a cognate user that is a recipient of content just like the ’217 patent, which uses “collaborative filtering” and “group based” analyses to estimate “similar past user actions and assessments” of users. Pet. 32 (citing EX-1001, 14:59-15:11, 43:30-37; EX-1003, ¶122); *FoxSupp.*, ¶53. Therefore, Dumais identifies cognate users that are also recipients of the electronic content. *Id.*

PO argues the purpose of identifying “cognate” users in 1[f] is to determine a relevance score for a piece of content based on that user’s actions. POR 55-56 (citing EX-2029, ¶¶70-81, 133-156). The Board already rejected this argument: “receiving content is a condition for identifying the other user, not a condition for being cognate.” DI, 15. In addition, the Board preliminarily concluded (and PO does not dispute) that determining relevance based on a cognate user’s actions is “an alternative limitation, which is not required to meet the claim if another alternative

is met.” DI, 37.¹¹ As the Board explained, Dumais teaches grouping like users with collaborative filtering based on similar “interactions with the data items.” DI, 37; Pet. 31 (citing EX-1005, ¶¶22, 55, Fig. 5); EX-1005, ¶21 (discussing organizing users into “a desired social network of interest”); *FoxSupp.*, ¶54. PO’s expert agreed Dumais identifies cognate users. Khan Tr., 221:7-10 (agreeing Dumais “identifying a social network of interest” is “identifying cognate users”).

IV. PO’S ALLEGED SECONDARY CONSIDERATIONS OF NON-OBVIOUSNESS ARE NOT EXPLAINED AND LACK THE REQUIRED NEXUS.

As discussed above and in the Petition, Petitioner has made a strong showing of obviousness in all three grounds. PO makes a last-ditch effort to overcome this by asserting “secondary considerations of non-obviousness.” POR 57-59. But PO’s secondary considerations arguments—which in three pages purport to address commercial success, long felt but unresolved needs, failure by others, praise by others, recognition of the problem being solved, and copying—amount to no more than a hodge-podge of unsupported attorney arguments.

¹¹ Regardless, the Board correctly determined Dumais meets this alternative limitation. DI, 37; EX-1005, ¶¶40-41, 52-53, 55; EX-1003, ¶¶120-22; *FoxSupp.*, ¶54.

Particularly, PO's commercial success, failure by others, praise by others, and copying arguments are all based on Meta's Instagram and Facebook products and X's product, without even attempting to show those products practice the Challenged Claims. *See id.* Thus, PO has not shown any nexus (presumed or actual) between the claimed invention and the asserted objective indicia related to those products. *Henny Penny Corp. v. Frymaster LLC*, 938 F.3d 1324, 1332 (Fed. Cir. 2019) (holding that to be relevant, evidence of secondary considerations must have a 'nexus' to the claims"); *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1311–12 (Fed. Cir. 2006). And PO never explains how articles and press releases generally discussing algorithmic curation in Twitter, Facebook, and Instagram feeds support "copying" the alleged invention. POR 59 (citing EX-2081-2083);¹² *Institut Pasteur & Université Pierre et Marie Curie v. Focarino*, 738 F.3d 1337, 1347–48 (Fed. Cir. 2013) ("Copying requires duplication of features of the patentee's work ***based on access to that work***, lest all infringement be mistakenly treated as copying." (emphasis added)).

For long-felt but unresolved need and recognition of the problem being solved, PO relies only on conclusory statements from the '217 patent itself. POR

¹² It is unclear why PO cites the entirety of its district court complaints against Meta and X. *Id.* (citing EX-2084, 2085 without explanation).

58-59. But an applicant's conclusory statements in a patent specification are not evidence of secondary considerations of non-obviousness. *See Xerox Corp. v. X Corp.*, No. 2023-1913, 2025 WL 1692962, *7 (Fed. Cir. June 17, 2025) (“[O]bjective evidence of nonobviousness must be objective factual evidence, and not merely argument or conclusory statements of the applicant.”). And as shown in the Petition, PO relies on concepts that were already known in the prior art, which is not evidence of non-obviousness. *E.g., Novartis AG v. Torrent Pharms. Ltd.*, 853 F.3d 1316, 1331 (Fed. Cir. 2017) (“In evaluating whether the requisite nexus exists, the identified objective indicia must be directed to what was not known in the prior art.”).

V. CONCLUSION

Petitioner has proven by a preponderance of the evidence that the '217 Challenged Claims are unpatentable. *FoxSupp.*, ¶55.

Respectfully submitted,

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CERTIFICATE OF WORD COUNT UNDER 37 CFR §42.24(d)

I hereby certify that the foregoing PETITIONER’S REPLY includes 5,589 words (as calculated by Microsoft Word), excluding those in a table of contents; a table of authorities; a listing of facts that are admitted, denied, or cannot be admitted or denied; a certificate of service or word count; or an appendix of exhibits. Accordingly, this Reply is under the word count limit of 5,600 words.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on February 18, 2026 true and correct copies of the foregoing PETITIONERS' REPLY TO PATENT OWNER'S RESPONSE and EXHIBITS 1040-1045 was served via electronic mail upon the following counsel of record for Patent Owner:

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