

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

X CORP.,
Petitioner,

v.

STERLING COMPUTERS CORPORATION,
Patent Owner.

IPR2025-00299
Patent 7,716,217 B2

Before KARL D. EASTHOM, AMBER L. HAGY, and BACH V. HOANG,
Administrative Patent Judges.

HOANG, *Administrative Patent Judge.*

Final Written Decision
Determining All Challenged Claims Unpatentable
Dismissing Patent Owner's Motion to Exclude
Dismissing Petitioner's Motion to Exclude
35 U.S.C. § 318(a)

I. INTRODUCTION

On June 10, 2025, we instituted an *inter partes* review of claims 1–22, i.e., all claims, of U.S. Patent No. 7,716,217 B2 (Ex. 1001, “the ’217 Patent”). Paper 13 (“Inst. Dec.”). Having considered the full record at trial, and for the reasons explained below, we determine that Petitioner has shown by a preponderance of the evidence that challenged claims 1–22 are unpatentable. In addition, we dismiss Patent Owner’s Motion to Exclude (Paper 43) and dismiss Petitioner’s Motion to Exclude (Paper 44).

A. History of this Proceeding

On December 12, 2024, X Corp. (“Petitioner”) filed a petition requesting an *inter partes* review of claims 1–22 of the ’217 Patent. Paper 1 (“Pet.”). Sterling Computers Corporation (“Patent Owner”) timely filed a Preliminary Response (Paper 9), Petitioner filed an authorized pre-institution reply (Paper 10) and Patent Owner filed an authorized pre-institution sur-reply (Paper 11). Based on the preliminary record, we determined that Petitioner demonstrated a reasonable likelihood that it would prevail in establishing the unpatentability of at least one challenged claim, and we instituted an *inter partes* review of all challenged claims on all asserted grounds. Inst. Dec. 36–37.

After institution, Patent Owner filed a Response (Paper 17, “Response” or “PO Resp.”), Petitioner filed a Reply (Paper 36, “Reply” or “Pet. Reply”), and Patent Owner filed a Sur-reply (Paper 38, “Sur-reply” or “PO Sur-reply”). An oral hearing in this proceeding was held on March 11, 2026, and a transcript of the hearing is included in the record. Paper 53 (“Tr.”).

During trial, the parties filed several motions. We granted Petitioner's motion to enter the Board's Default Protective Order. Paper 32. We also granted-in-part Petitioner's request for routine and additional discovery. Paper 31. In particular, we granted Petitioner's request for routine discovery of an unredacted version of Exhibit 2046 and denied Petitioner's request for routine or additional discovery for the documents listed in the privilege log of Exhibit 2042. *Id.*

In addition, Patent Owner filed a Motion to Exclude various exhibits (Paper 43), Petitioner opposed (Paper 46), and Patent Owner filed a reply (Paper 47). For the reasons explained below in § III, we dismiss Patent Owner's Motion to Exclude as moot.

Petitioner also filed a Motion to Exclude various exhibits (Paper 44), Patent Owner opposed (Paper 45), and Petitioner filed a reply (Paper 48). For the reasons explained below in § IV, we dismiss Petitioner's Motion to Exclude as moot.

B. Related Matters

The parties indicate that the '217 Patent has been asserted in two district court lawsuits:

- *Sterling Computers Corp. v. X Corp.*, No. 1:24-cv-00552 (W.D. Tex. May 22, 2024).
- *Sterling Computers Corp. v. Meta Platforms, Inc.*, No. 1-24-cv-00551 (W.D. Tex. May 22, 2024).

Pet. 79; Paper 7, 2.

The '217 Patent is the subject of one other petition for *inter partes* review: IPR2025-00430 (filed by Meta Platforms, Inc.). Paper 7, 2.

C. Asserted References

Petitioner's unpatentability challenges rely on four references:

- Dumais et al., US 2007/0016553 A1, published January 18, 2007. Ex. 1006 ("Dumais").
- Kircher, Jr. et al., US 2003/0195937 A1, published October 16, 2003. Ex. 1007 ("Kircher").
- Krug, WO 03/023650 A2, published March 20, 2003. Ex. 1008 ("Krug").¹
- Marston et al., US 2004/0260710 A1, published December 23, 2004. Ex. 1043 ("Marston").

D. Testimonial Evidence

Petitioner submits a declaration from Dr. Henry Houh. Ex. 1004.

Patent Owner, prior to institution, submitted declarations from Dr. Latifur Khan (Ex. 2001) and Justin Marston (Ex. 2003). Following institution, Patent Owner submitted a second declaration from Dr. Khan (Ex. 2029), a July 8, 2025 supplemental declaration from Justin Marston (Ex. 2015), a September 9, 2025 supplemental declaration from Justin Marston (Ex. 2030), and a declaration from Paul Marston (Ex. 2031). Petitioner submitted deposition transcripts of Justin Marston (Ex. 1050), Dr. Khan (Ex. 1058), Paul Marston (Ex. 1064).

E. The Petition's Asserted Grounds

Petitioner asserts the following grounds of unpatentability (Pet. 2–3):

¹ Petitioner submits Krug's related German-language PCT patent application and a certified translation of the same for Krug. *See* Ex. 1008. We refer to the English-language translation of Krug.

Claims Challenged	35 U.S.C. ² §	Reference(s)/Basis
1–3, 5–9, 13–15, 18, 19, 22	103(a)	Dumais
1–3, 5–9, 13–15, 18, 19, 22	103(a)	Dumais, AAPA
1–22	103(a)	Dumais, Marston
1–3, 5–9, 13–15, 18, 19, 22	103(a)	Kircher, Krug
4, 10–12, 16, 17, 20, 21	103(a)	Kircher, Krug, Marston

F. The '217 Patent (Ex. 1001)

The '217 Patent relates to techniques for determining the relevance of electronic content, e.g., an email, received by a user. Ex. 1001, 3:34–51, code (57). That relevance determination may be used, for example, in an email application so that a user may browse through received emails that are sorted or ranked according to their relevance. *Id.* at 7:35–42. Or, if users search their emails, the search results display a relevance score for the resulting emails. *Id.* at 7:42–50.

In the '217 Patent, the relevance of electronic content with respect to a particular user is determined based on a number of factors including the importance of the sender of the electronic content, the user's actions on the electronic content, or certain *other users'* actions on the electronic content (e.g., reading an email). *Id.* at 3:36–42, 8:34–52; *see also id.* at 11:4–13:20.

² The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284, 285–88 (2011), revised 35 U.S.C. §§ 102 and 103 effective March 16, 2013. Because the application for the challenged patent was filed before March 16, 2013, the pre-AIA version of § 103 applies. Neither party argues that the outcome of this case would differ based on applying the pre-AIA or post-AIA versions of these laws.

The other users considered in the relevance determination may be identified as part of a “cognate group” of other users who are “similar” to the user. *Id.* at 25:37–39, 35:65–36:6; *see also id.* at 43:20–30. The ’217 Patent discloses various approaches to identify a cognate group, including “role or group based; collaborative filtering; fingerprinting; cluster models; search based methods; frequency analysis; and importance value correlation.” *Id.* at 43:30–35; *see also id.* at 43:28–46:60.

G. Challenged Claims

Petitioner challenges claims 1–22 of the ’217 Patent. Of these, claims 1, 6, and 7 are independent, and for purposes of this Decision, claim 1 is representative. Claim 1 is reproduced below with Petitioner’s limitation identifiers for discussion purposes:

1[pre] A computer-implemented system for determining a relevance score of a piece of electronic content sent from a sender to a user, the relevance score determined with respect to the user, the computer-implemented system comprising:

1[a] a computer processor; and

1[b] a computer-readable storage medium storing computer program modules configured to execute on the computer processor, the computer program modules comprising:

1[c] a monitoring module configured to track actions by a plurality of users associated with an application for managing electronic content;

1[d] a first relevance measurement module coupled to the monitoring module and configured to determine a first measure of relevance of the piece of electronic content based at least in part on one or more actions of the user on the piece of electronic content;

1[e] a second relevance measurement module coupled to the monitoring module and configured to:

- 1[f] identify 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 user, and
- 1[g] determine a second measure of relevance of the piece of electronic content as based at least in part on one or more measures derived from the group consisting of:
 - 1[g][i] a local importance describing an importance of the sender to the user,
 - 1[g][ii] a global importance describing an importance of the sender within an organization with which the plurality of users are associated,
 - 1[g][iii] a content relevance determined responsive to content of the piece of electronic content, and
 - 1[g][iv] one or more actions on the piece of electronic content of the 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 user; and
- 1[h] a relevance analysis module configured to determine the relevance score of the piece of electronic content sent from the sender to the user, the relevance score being determined based at least in part on the first determined measure of relevance and on the second determined measure of relevance.

Ex. 1001, 47:25–67; Pet. x–xi.

II. ANALYSIS

A. *Legal Standards*

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). This burden of persuasion never shifts to the patent owner. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

The legal question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). One seeking to establish obviousness based on more than one reference also must articulate sufficient reasoning with rational underpinnings to combine teachings. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

B. *Level of Ordinary Skill in the Art*

Petitioner asserts that a person of ordinary skill in the art (“POSITA”) at the time of the purported inventions of the ’217 Patent would have had at least a bachelor’s degree in electrical or computer engineering, or a related field, and two to three years of experience with web or email-based content management systems; a higher level of education or skill can make up for less experience, and vice versa.

Pet. 7 (citing Ex. 1004 ¶¶ 1–23, 125–105; Ex. 1005).

Our Institution Decision adopted Petitioner’s definition of a person of ordinary skill in the art. Inst. Dec. 8–9. In its response, Patent Owner adopts Petitioner’s proposed level of ordinary skill. *See* PO Resp. 14–15 (“Patent Owner and its expert adopt the Board’s definition for purposes of this Response”).

Having considered the record, we continue to adopt Petitioner’s proposed level of skill, as articulated above. We are satisfied that Petitioner’s proposal comports with the level of skill necessary to understand and implement the teachings of the ’217 Patent. *Accord* Inst. Dec. 8–9.

C. Claim Construction

We interpret claim terms using “the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” 37 C.F.R. § 42.100(b). Under the principles set forth by our reviewing court, the “words of a claim ‘are generally given their ordinary and customary meaning,’” as would be understood by a person of ordinary skill in the art at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)).

Petitioner offers a number of claim constructions. Pet. 8–21. Patent Owner disputes certain of those constructions. PO Resp. 15–22. Petitioner, for its part, states that “[r]egardless, the prior art discloses the claims under either party’s construction.” Pet. Reply 1.

We address the necessary claim construction disputes below. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that “we need only construe terms ‘that

are in controversy, and only to the extent necessary to resolve the controversy” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

1. “computer program modules”

The parties dispute whether four “computer program modules comprising” (1) “a monitoring module,” (2) “a first relevance measurement module,” (3) “a second relevance measurement module,” and (4) “a relevance analysis module” (collectively, “module limitations”) invoke 35 U.S.C. § 112 ¶ 6 and should be treated as means-plus-function limitations. *See* Pet. 8–18; PO Resp. 15–18; Pet. Reply 3–5; PO Sur-reply 4–7. However, the parties do not argue that the construction of these terms affects the analysis of Petitioner’s challenges. *See* PO Resp.; Pet. Reply; PO Sur-reply. Moreover, our analysis does not rely on any particular construction of these terms and, so, we need not resolve this dispute.

2. “one or more measures derived from the group consistent of”

Petitioner asserts limitations 1[g] and 1[g][i]–1[g][iv] recite an open *Markush* group listing alternatively useable members. Pet. 20–21 (citing *Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1372 (Fed. Cir. 2005); *Abbot Lab’ys v. Baxter Pharm. Prod., Inc.*, 334 F.3d 1274, 1281 (Fed. Cir. 2003) (explaining that the listing of specified alternatives within a claim is referred to as a *Markush* group or *Markush* grouping)); *See* Ex. 1001, 47:47–58. Patent Owner does not dispute Petitioner’s construction. *See* PO Resp; PO Sur-reply. As these terms are not in controversy, we need not opine on this construction.

3. *“identify at least one other of the plurality of users that is a recipient . . . and that is cognate”*

Limitation 1[f] of claim 1 recites “identify 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 user.” Ex. 1001, 47:43–45. Within that limitation, the parties dispute the terms “a recipient” and “cognate” to other users. PO Resp. 18–22; Pet. Reply 6–9. We address each term in turn, below.

a) *“a recipient”*

Patent Owner argues “a recipient” should be construed as “a specific type of user – i.e., a user that has **received** a piece of electronic content **sent** from a **sender**.” PO Resp. 21; PO Sur-reply 7–9. Petitioner counters that the term “should be given its ordinary meaning – someone who receives content by any means.” Pet. Reply 6.

Even if Patent Owner’s narrower construction of “a recipient” applies, Petitioner prevails according to our analysis of this limitation below in § II.D.4.g and § II.E.3.g, and we need not resolve this dispute.

b) *“cognate to the user”*

Petitioner contends the limitation “identify[ing] at least one other of the plurality of users . . . that is cognate to the user” should be interpreted to “mean[] identifying at least one user in a group of other users who share similar past user actions and assessments, and/or are defined by direct input by the user.” Pet. 18 (citing Ex. 1004 ¶ 169).

Patent Owner states “the limitation should be interpreted to mean that the ‘*at least one other of the plurality of users*’ being ‘*identif[i]ed*’ must ‘share similar past user actions and assessments **as the first user**, and/or

share similar direct input as the first user.” PO Resp. 20–21. That is, the identified other user is cognate to “a particular other user – i.e., the first user for which relevancy is being determined.” *Id.*

Petitioner’s and Patent Owner’s respective constructions overlap in their requirement that “cognate” users share similar past user actions and assessments or are defined by similar direct input by the user. *See* Pet. 18; PO Resp. 20–21; PO Sur-reply 10. Petitioner argues that Patent Owner’s construction “exclude[s] ‘groups’ from the claims” and further limits the scope of to users who share actions (Pet. Reply 8–9), but Patent Owner states that its proposed construction does not so limit the claims (PO Sur-reply 10). As such, there is no disagreement that “cognate” users share similar past user actions and assessments or are defined by similar direct input by the user. As there is no controversy, we need not, and do not, construe the meaning of “cognate.”

However, Patent Owner’s requirement that “at least one other of the plurality of users” is specifically cognate to “the user” who was sent the content is plainly recited in the claim language itself. The claim recites a “relevance score of a piece of electronic content sent from a sender to *a user*” in the preamble and similarly again in limitation 1[g]. *See* Ex. 1001, 47:25–28 (emphasis added), 45:62–64. The limitation in question directly references the claimed “user” when reciting the cognate relationship: “identify at least one other of the plurality of users . . . that is cognate *to the user.*” Ex. 1001, 47:43–45 (emphasis added). As such, the claim language plainly supports Patent Owner’s requirement and Petitioner does not contest that requirement. *See* Pet. Reply 8.

Accordingly, we provide a limited construction of “identify[ing] at least one other of the plurality of users . . . that is cognate to the user” as requiring that the identified other user is cognate specifically to the user whose relevance score is being determined.

D. Obviousness Based on Dumais

Petitioner asserts three grounds challenging claims 1–22 based on Dumais alone, Dumais in view of applicant admitted prior art (AAPA), or Dumais in view of Marston (collectively, the “Dumais-based grounds”). Pet. 2. Patent Owner opposes, arguing that Dumais is not prior art to the ’217 Patent. PO Resp. 42–48; PO Sur-reply 18–25. Patent Owner also contends that Petitioner fails to show that Dumais teaches certain limitations recited in claim 1. PO Resp. 48–53; PO Sur-reply.

We find that Dumais constitutes prior art to the ’217 Patent. Further, we conclude that the respectively challenged claims would have been obvious over Dumais, alone, in view of AAPA, or in combination with Marston. We provide our analysis below.

1. Summary of Asserted Prior Art Reference Dumais (Ex. 1006)

Dumais describes a technique for personalizing the ranking of search results of electronic data items, e.g., documents, files, email messages, or web pages. Ex. 1006 ¶¶ 31, 40, code (57). Dumais provides personalized search results for a specific user based on a “user model.” *Id.* ¶ 40. Such models can be derived using “collaborative filtering techniques that develop profiles by the analysis of similarities among individuals or groups of individuals.” *Id.* ¶ 52. Similarities can be based on the content or usage of items. *Id.* That is, collaborative filtering considers previous user activities

from a group of users that may indicate preferences for a given user. *Id.*
¶ 55.

2. *Summary of Asserted Prior Art Reference Marston (Ex. 1043)*

Marston describe a messaging system uses a relational model to represent messages exchanged among end-users. Ex. 1043, code (57). The system uses a relationship module to describe relationships between messages and submessages. *Id.*

3. *Prior Art Status of Dumais*

Patent Owner contends Dumais is not prior art to the '217 Patent, and offers evidence and argument seeking to antedate the invention of the '217 Patent prior to the filing date of Dumais. PO Resp. 42–48; PO Sur-reply 18–25. Dumais was filed June 29, 2005. Ex. 1006, code (22). The '217 Patent on its face shows a priority date of January 13, 2006 (Ex. 1001, code (60)), but Patent Owner asserts the '217 Patent is entitled to an earlier priority date of June 29, 2005. PO Resp. 42.

Antedating Dumais requires that the inventors of the '217 Patent, Justin Marston and Paul Marston (“the Marstons”), have (1) conceived of the inventions at issue before January 13, 2006 and (2) diligently reduced the conceptions to practice. *Arctic Cat Inc. v. GEP Power Prods., Inc.*, 919 F.3d 1320, 1331 (Fed. Cir. 2019) (citing *Perfect Surgical Techniques, Inc. v. Olympus America, Inc.*, 841 F.3d 1004, 1007 (Fed. Cir. 2016)). In an IPR, “when a patent owner attempts to antedate an asserted prior art reference, the patent owner assumes a temporary burden of production.” *Parus Holdings, Inc. v. Google LLC*, 70 F.4th 1365, 1371 (Fed. Cir. 2023) (citations omitted). Further, the “burden of production cannot be met simply by throwing

mountains of evidence at the Board without explanation or identification of the relevant portions of that evidence. One cannot reasonably expect the Board to sift through hundreds of documents, thousands of pages, to find the relevant facts.” *Id.*

We determine that Patent Owner has failed to carry its initial burden of production to show diligent reduction to practice and, as such, we find that Dumais is prior art to the ’217 Patent. Given that determination, and on the record before us, we need not resolve the parties’ dispute over conception. Our analysis on diligence follows.

Patent Owner contends that the inventors of the ’217 Patent were reasonably diligent throughout the critical period in the invention’s reduction to practice. PO Resp. 43–48. Here, Patent Owner and Petitioner identify the critical period spans 198 days, beginning just before Dumais’s priority date, June 29, 2005, and ending on the filing date of the ’217 Patent’s provisional application, January 13, 2006. PO Resp. 46; Pet. Reply 24; *see Perfect Surgical Techniques, Inc. v. Olympus Am., Inc.*, 841 F.3d 1004, 1007 (Fed. Cir. 2016) (“Reasonable diligence must be shown throughout the entire critical period, which begins just prior to the competing reference’s effective date and ends on the date of the invention's reduction to practice.”). Patent Owner asserts its proffered evidence corroborates the inventors’ testimony and shows diligence throughout the critical period, specifically citing a declaration from Justin Marston, a declaration from Paul Marston, a privilege communication log, a BlueSpace work log, and additional “corroborating documentation.” PO Resp. 46 (citing Ex. 2030, Ex. 2031, Exs. 2032–2078). Patent Owner argues that its proffered evidence,

considered as a whole and under a rule of reason, shows continuous diligence during the critical period. PO Resp. 47.

We determine that Patent Owner has not carried its temporary burden of production to support its contention that the inventors were reasonably diligent throughout the critical period. *See Parus Holdings*, 70 F.4th at 1371. The biggest shortcoming in Patent Owner’s showing is a failure to specifically cite the relevant record evidence combined with an explanation of the significance of the produced material in briefs. *See id.* at 1372 (explaining that “[t]he burden of production cannot be met without some combination of citing the relevant record evidence with specificity and explaining the significance of the produced material in briefs”). Patent Owner states that it “has submitted voluminous documentation” (PO Sur-reply 23) and, as a matter of sheer number of pages, it has. But, as our reviewing court has admonished, the “burden of production cannot be met simply by throwing mountains of evidence at the Board without explanation or identification of the relevant portions of that evidence.” *See Parus Holdings*, 70 F.4th at 1371. Instead of citing what specific portions of its several evidentiary exhibits are relevant and why, Patent Owner cites to the entire exhibits and asserts, without analysis or explanation, that they show diligence. *See* PO Resp. 46–47 (citing numerous exhibits without pinpoint citations).

For example, in its Response, Patent Owner states “numerous documents corroborating [the inventors’] testimony that, during the critical period, they were refining the formulas to implement the BlueSpace relevance model” by citing the *entirety* of so-called “corroborating documentation” spanning Exhibits 2032 through 2078 as well as the entirety

of Justin Marston’s Second Supplemental Declaration (Ex. 2030) and Paul Marston’s Declaration (Ex. 2031). *See* PO Resp. 46–47. However, there is not a single pinpoint citation to any particular paragraph, page, or entry for any of those exhibits (a number of which approach 100 pages in length) in Patent Owner’s discussion. *See id.* Even less helpful, the Response does not explain or point out any specific dates, activities, or amount of time that the inventors actually worked on the claimed invention. *See id.* That is, the Response does not state exactly what in the “corroborating documentation” actually corroborates the inventors’ testimony or itself shows diligence. If anything, the Response points out that the inventors were engaged in *other* activities: “Justin Marston had numerous other obligations running the company BlueSpace, and Paul Marston was working a full-time position as a lecturer on statistics.” PO Resp. 47. We do not fault the Marstons for engaging in other activities, but Patent Owner’s discussion of the Marstons’ other activities and mere conclusory assertions of diligence, without more, do not show that the Marstons were reasonably diligent as to the relevant activities during the critical time period. Simply put, Patent Owner’s Response does not adequately explain exactly how or why the evidence supports its argument that the inventors were reasonably diligent throughout the critical period. We decline the invitation to sift through the hundreds of pages spanning dozens of exhibits in search of evidence and reasons supporting Patent Owner’s assertion of diligence.

Patent Owner’s Sur-reply, responding to diligence gaps Petitioner identifies, fares slightly better in providing more exact citations and explanations as to the relevance of the evidence. *See* PO Sur-reply 23–26; Pet. Reply 23–26. However, Patent Owner’s arguments and new citations

are untimely and fail for that reason alone. Not only are they untimely, but they cite uncorroborated inventor testimony, which is alone inadequate to show diligence. *Perfect Surgical Techniques, Inc. v. Olympus Am., Inc.*, 841 F.3d 1004, 1007 (Fed. Cir. 2016) (“An inventor’s testimony regarding his reasonable diligence must be corroborated by evidence.”). Specifically, Patent Owner cites Justin Marston’s Second Supplemental Declaration (Exhibit 2030) and Paul Marston’s Deposition on November 17, 2025 (Exhibit 1064) to argue that the Marstons spent more than 108 hours working on their provisional patent application over the critical period, but Patent Owner does not cite any non-testimonial evidence corroborating that testimony. *See* PO Sur-reply 23–24. As such, that testimony does not show reasonable diligence over the critical period.

Patent Owner’s Sur-reply also discusses activities and non-testimonial evidence supporting diligence during a portion of the critical period from November 13, 2005 to January 11, 2006. *See* PO Sur-Reply 24–25. First, that discussion does not account for the entire critical period. In particular, four months, spanning from June 29, 2025, through November 12, 2005, of the six month critical period are unaccounted for, suggesting a lack of diligence.

Furthermore, much of the non-testimonial evidence the Sur-reply cites is undated or dated outside of the critical period, and, so, does not support that work was done during the critical period. *See* Ex. 1053 (undated); Ex. 1054 (undated); Ex. 2044 (undated); Ex. 2051 (metadata showing creation date outside of critical period).

Turning to the cited non-testimonial evidence with dates within the critical period, Patent Owner identifies four pages in Exhibit 2041, a log of

BlueSpace documents, stating that there were “sixty documents showing BlueSpace/TransMail work” from November 13, 2005 to January 11, 2006. PO Sur-reply 24. Even if we knew which 60 documents (out of the 118 documents listed) Patent Owner refers to, the log of documents lists each document name with associated dates and parties, but does not list the substance of any document. Without knowing any document’s content, we cannot speculate and assume that any logged document somehow shows diligence. For example, we decline to guess how seven documents named “BlueSpace home page 4 option 1.jpg” though “BlueSpace home page 4 option 7.jpg” show diligence. See Ex. 2041, 5. Nor does Patent Owner explain how any of those documents would show diligence. See PO Sur-reply 24. Patent Owner also cites Exhibit 2042, a log of Justin Marston’s privileged communications with BlueSpace counsel. But, similarly to the document log, the privilege log includes the communications’ subject line, date, and parties, but the actual substance of any particular communication is undisclosed. In fact, Patent Owner opposed providing the substance of those communications. Paper 29 (“Patent Owner’s Opposition to Petitioner’s Request for Additional and Routine Discovery”). We cannot simply assume that the communications included discussion showing diligence and it would be unfair to read their undisclosed contents in favor of Patent Owner when Patent Owner opposed disclosing their contents.

We are left with one specifically cited, dated, non-testimonial piece of evidence that Patent Owner identifies only in response to Petitioner’s Reply: Exhibit 1054. We agree with Patent Owner that Exhibit 1054 shows “communications **between the Marstons** about the invention prior to January 11.” PO Sur-reply 25. But Exhibit 1054 is a single snapshot

discussing one instance of work for the provisional application. *See* Ex. 1054. With the critical period spanning 198 days, this single snapshot does not show reasonable diligence over the entire 198 day critical period. Nor does that single data point adequately corroborate the inventors’ testimony for the entire 198 day critical period.

Accordingly, after weighing the totality of evidence of record in light of the respective positions of the parties with respect to diligence, we find Patent Owner does not carry its burden of production to show that the ’217 Patent is entitled to an earlier priority date than Dumais. Therefore, on this record, we determine Dumais qualifies as prior art and we analyze Petitioner’s obviousness challenge over Dumais next.

4. Obviousness of Independent Claim 1 over Dumais

a) Preamble

Petitioner contends that Dumais teaches the preamble, i.e., “[a] computer-implemented system for determining a relevance score of a piece of electronic content sent from a sender to a user, the relevance score determined with respect to the user.” Pet. 23–25 (citing Ex. 1006 ¶¶ 17, 22, 31, 33, 41–42, 53, 70, Figs. 1, 4, code (51), claim 17; Ex. 1004 ¶¶ 188–197, 368–369). Indeed, Dumais describes processing and assigning relevance rankings and scores to “data items” including emails that are forwarded, replied to, and sent from a sender to a user. Ex. 1006 ¶¶ 22, 31. Patent Owner does not dispute this contention. *See* PO Resp. We find that

Petitioner has shown, by a preponderance of the evidence, that Dumais teaches the preamble.³

b) Limitation 1[a]

Petitioner contends that Dumais teaches “a computer processor.” Pet. 25–26 (citing Ex. 1006 ¶ 70, Fig. 8; Ex. 1004 ¶¶ 198–99). Indeed, Dumais describes a computer with a processing unit. Ex. 1006 ¶ 70, Fig. 8. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that Dumais teaches this limitation.

c) Limitation 1[b]

Petitioner contends that Dumais teaches “a computer-readable storage medium storing computer program modules configured to execute on the computer processor, the computer program modules.” Pet. 26–27 (citing Ex. 1006 ¶¶ 20, 70, 72–74, Fig. 8; Ex. 1004 ¶¶ 200–201). Indeed, Dumais describes applications and program modules executed on its computing system. Ex. 1006 ¶¶ 20, 70, 74. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that Dumais teaches this limitation.

d) Limitation 1[c]

Petitioner contends that Dumais teaches “a monitoring module configured to track actions by a plurality of users associated with an application for managing electronic content.” Pet. 27–29 (citing Ex. 1006

³ Accordingly, we need not determine whether the preamble is limiting. *See Vivid Techs.*, 200 F.3d at 803.

¶¶ 10–13, 19, 22–23, 31, 40, 52; Ex. 1004 ¶¶ 203–211, 338–339, 370–371). Indeed, Dumais describes a “monitor component,” which tracks user interactions with data items, e.g., for an email system, and further describes comparing data item interactions between users. Ex. 1006 ¶¶ 10–13, 19, 22, 31, 52. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that Dumais teaches this limitation.

e) Limitation 1[d]

Petitioner contends that Dumais teaches “a first relevance measurement module coupled to the monitoring module and configured to determine a first measure of relevance of the piece of electronic content based at least in part on one or more actions of the user on the piece of electronic content.” Pet. 29–31 (citing Ex. 1006 ¶¶ 7–8, 19, 20, 23, 35, Fig. 1; Ex. 1004 ¶¶ 223–229, 340–341, 374–375). Indeed, Dumais assigns weights or scores to data items based on monitored activities. Ex. 1006 ¶¶ 19, 23, 35. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that Dumais teaches this limitation.

f) Limitation 1[e]

Petitioner contends that Dumais teaches “a second relevance measurement module coupled to the monitoring module.” Pet. 31–32 (citing Ex. 1006 ¶¶ 40–41, 43, 53, 76, Fig. 4; Ex. 1004 ¶¶ 230–239). Indeed, Dumais creates a user model that reflects user interests based on user activity. Ex. 1006 ¶¶ 40, 43, 53. Patent Owner does not dispute this

contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that Dumais teaches this limitation.

g) Limitation 1[f]

Petitioner contends Dumais teaches “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 user.” Pet. 32–34 (citing Ex. 1006 ¶¶ 22, 40, 52, 55; Ex. 1004 ¶¶ 240, 242–245, 344–345, 372–373).

Patent Owner argues Petitioner fails to show that Dumais meets this limitation for three reasons: (1) Petitioner and its expert “ignore[] the verb” “identify” (PO Resp. 50–51; PO Sur-reply 25); (2) Dumais’s other user is not a recipient of the same piece of electronic content that the user was sent (PO Resp. 49–50; PO Sur-reply 25–26); and (3) Dumais’s other user is not both a recipient and cognate to the user (PO Resp. 51–53; PO Sur-reply 26).

Notwithstanding Patent Owner’s arguments, for the reasons discussed below, we determine that Petitioner has shown, by a preponderance of the evidence, that a person of ordinary skill in the art would have understood that Dumais teaches or suggests this limitation and would have found this limitation obvious.

As previously discussed, Dumais creates a “user model” that is used to personalize search results for a user. Ex. 1006 ¶¶ 40, 43. Petitioner shows that the user model “identif[ies] at least one other of the plurality of users” by explaining that Dumais uses “collaborative filtering techniques that develop profiles by the analysis of similarities among individuals or groups of individuals.” Pet. 32 (citing Ex. 1006 ¶¶ 23–23, 52); Pet. Reply 27. Supporting Petitioner’s explanation, Dumais states that its “[s]imilarity computations can be based on the content and/or usage of

items” (Ex. 1006 ¶ 52) and that its “collaborative filter techniques . . . process previous user activities from a group of users that may indicate preferences for a given user” (*id.* ¶ 55). That discussion, i.e., that a user group is based on identifying a previous user’s activities and similarities, contradicts Patent Owner’s arguments that Petitioner “ignores the verb” “identify” and fails to address “the requirement to actually ‘*identify*’ another” (PO Resp. 50–51; PO Sur-reply 25). Moreover, Petitioner explicitly states that “Dumais discloses identifying at least one user in a group of other users who share similar past user actions and assessments (i.e., usage of items).” Pet. 33. As Petitioner points out (Pet. Reply 27; Pet. 33), Dumais’s collaborative filtering performs an “analysis of similarities among individuals or groups of individuals” (Ex. 1006 ¶ 52) and thereby identifies the individuals or groups of individuals it is analyzing. In fact, Figure 5 of Dumais shows user model 500, which identifies data from “other users.” *Id.*, Fig. 5 (capitalization changed).

Petitioner also shows that a skilled artisan “would have understood” that one of the other users identified in the creation of Dumais’s user model would have also been “a recipient of the piece of electronic content” sent to the user. Pet. 33; Pet. Reply 28 (asserting at least one of “the members of the cognate ‘group’ [is] also a ‘*recipient*’”). Dumais explains that content “items” include “email messages,” i.e., items that are received and sent. Ex. 1006 ¶ 25; *see id.* ¶ 22 (“A monitor component 110 observes data interactions” such as “when files are . . . forwarded, replied to, sent to.”). Patent Owner’s argument that Dumais’s discussion of ranking emails does not disclose users who receive the same email (PO Reply 49–40) ignores related disclosures in Dumais cited by Petitioner. Dumais uses collaborative

filtering to identify “similarities” between users by considering the “content and/or usage of items.” *Id.* ¶¶ 52, 55. Dumais explains that its collaborative filtering considers “user activity or interaction data” from “information sources” that are “similar . . . in nature” and include email. Ex. 1006 ¶ 55–56. Because Dumais identifies similar other users based on similar content and usage of sent and received email, it follows that the identified other user’s similarity is measured based on their usage of the same email the user was sent. As such, we agree that Dumais teaches or at least would have suggested to a skilled artisan that the other user identified “is a recipient of the piece of electronic content” the user was sent. Pet. 33.

In addition to agreeing with Petitioner that Dumais teaches or suggests that the identified other user receives the same email message as the user, we also agree with Petitioner that the skilled artisan would have found it obvious to receive the same email message as the user. Pet. 33–34.

Although Patent Owner asserts that “nothing in Dumais teaches (or suggests the desirability of)” considering the same email when identifying users (PO Sur-reply 25–26), Petitioner correctly points out that Dumais’s collaborative filtering identifies users by considering similar documents through “correlation coefficients, vector-based similarity calculations, and statistical Bayesian methods” (Pet. 33–34; Ex. 1006 ¶ 55). Petitioner also presents testimony by Dr. Houh, which we credit, who explains (with reference to supporting evidence) that such “similarity calculations often compare the similarity of two users’ interactions with the same objects to determine similarity between users.” Ex. 1004 ¶¶ 87 (citing Ex. 1029, 2–3 (“SmartTag is processing a new message for User 1 . . . User 2 has already tagged the message . . . It then recommends the new message is relevant to Category 2

to User 1.”), 246). Because Petitioner’s evidence demonstrates sufficiently that similarity based on interactions of the same item was known, we agree that it would have been obvious for Dumais’s collaborative filtering, which expressly considers similarity based on the usage of items (Ex. 1006 ¶¶ 52, 55–56), to consider interactions with usage of the *same item* to identify other users when defining its user model.

Furthermore, Petitioner shows that Dumais teaches the identified other user is also “cognate to the user” because the other users are identified via collaborative filtering, which identifies similarities between a user and other users sharing similar past user actions and assessments. Ex. 1006 ¶¶ 52, 55. Patent Owner does not contest that Dumais describes “cognate” other users, but instead argues that the identified other users are not *both* recipients *and* cognate to the user. See PO Resp. 49–53; PO Sur-reply 26. However, Petitioner’s discussion of this limitation explains that, based on Dumais’s teachings, “two users who had similar interactions with the same data item would have a high degree of similarity and would be grouped,” i.e., that “the members of the cognate ‘group’ are also a ‘*recipient*’” of the content. Pet. Reply 28; Pet. 34. Petitioner’s explanation (that the other identified user is cognate to the user because that other user had similar interactions with the same content the user was sent) meets both the “recipient” and “cognate” aspects required by the claim.

Accordingly, Petitioner shows, by a preponderance of the evidence, that Dumais teaches or suggests this limitation.

h) Limitation 1[g]

Petitioner contends that Dumais teaches “determine a second measure of relevance of the piece of electronic content as based at least in part on one

or more measures derived from the group consisting of” the recitations of limitations 1[g][i]–1[g][iv]. As noted above, Dumais describes a user module, which reflects user interests based on user activity. Ex. 1006 ¶¶ 40, 43, 53. Pet. 34–35 (citing Ex. 1006 ¶¶ 25, 40–43, 53; Ex. 1004 ¶¶ 251–254). Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that Dumais teaches this limitation.

i) Limitation 1[g][i]

Petitioner contends that Dumais teaches “a local importance describing an importance of the sender to the user.” Pet. 35–36 (citing Ex. 1006 ¶¶ 22, 31, 43, 46, 53; Ex. 1004 ¶¶ 258–261). Indeed, Dumais creates its user model in consideration of recent or frequent contacts. Ex. 1006 ¶¶ 43, 46; Ex. 1004 ¶ 260. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that Dumais teaches this limitation.

j) Limitation 1[g][ii]

Petitioner contends that Dumais teaches “a global importance describing an importance of the sender within an organization with which the plurality of users are associated.” Pet. 36–37 (citing Ex. 1006 ¶¶ 22, 31, 49; Ex. 1004 ¶¶ 265–270). Indeed, Dumais’s user model considers relationships in an organizational chart, at least suggesting a hierarchical importance. Ex. 1006, 49. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that Dumais teaches this limitation.

k) Limitation 1[g][iii]

Petitioner contends that Dumais teaches “a content relevance determined responsive to content of the piece of electronic content.” Pet. 37 (citing Ex. 1006 ¶¶ 25, 42, 52; Ex. 1004 ¶¶ 271–274). Indeed, Dumais matches users interests with items based on a statistical similarity match. Ex. 1006 ¶¶ 25, 42, 52. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that Dumais teaches this limitation.

l) Limitation 1[g][iv]

Petitioner contends that Dumais teaches “one or more actions on the piece of electronic content of the 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 user.” Pet. 37–39 (citing Ex. 1006 ¶¶ 43, 52, 55; Ex. 1004 ¶¶ 277–282). Indeed, Dumais’s user model considers the actions of other users who are similar to the user. Ex. 1006 ¶ 52. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that Dumais teaches this limitation.

m) Limitation 1[h]

Petitioner contends that Dumais teaches “a relevance analysis module configured to determine the relevance score of the piece of electronic content sent from the sender to the user, the relevance score being determined based at least in part on the first determined measure of relevance and on the second determined measure of relevance.” Pet. 39–41 (citing Ex. 1006 ¶¶ 25, 43–49, 50, Fig. 5; Ex. 1004 ¶¶ 284–297). Indeed, Dumais personalizes, e.g., ranks, search results for a user based on the user’s

past interactions and the user model. Ex. 1006 ¶¶ 26, 50, 52. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that Dumais teaches this limitation.

n) Conclusion as to Claim 1

For the reasons provided above, we are persuaded that the subject matter of claim 1 is taught or suggested by Dumais. As discussed below in § II.F, Patent Owner's objective indicia of nonobviousness does not outweigh Petitioner's showing. Accordingly, we determine that Petitioner has shown, by a preponderance of the evidence, that the subject matter of independent claim 1 would have been obvious over Dumais (with or without AAPA).

5. Remaining Claims and Grounds

Petitioner provides argument and evidence in support of its contention that remaining claims 2, 3, 5–9, 13–15, 18, 19, and 22 are taught, suggested, or would have been obvious over Dumais or Dumais and AAPA. Pet. 23–43. Petitioner provides further argument and evidence in support of its contention that claims 1–22 would have been obvious over the combination of Dumais and Marston. Pet. 43–47.

Patent Owner does not address the remaining grounds or claims 2–22 beyond linking those claims to arguments that Dumais alone does not teach limitation [1f], which we addressed in claim 1. *See* PO Resp. 53. For reasons provided above in § II.D.4, Patent Owner's arguments are unavailing.

As to Petitioner's analysis addressing the subject matter recited in claims 2–22, Petitioner provides citations and reasoned analysis supported by the record to show that the claims would have been obvious by a preponderance of evidence. *See* Pet. 23–47.

Regarding the remaining claims challenged over Dumais or Dumais and AAPA, claims 6 and 7 are independent claims, which recite similar subject matter as independent claim 1. *See* Ex. 1001, 48:16–49:20. As such, we determine that Petitioner has shown that the subject matter of claims 6 and 7 would have been obvious over Dumais (with or without AAPA) for the same reasons discussed above in § II.D.4. Regarding claims 2, 13, and 18, Dumais teaches a user interface that returns color-highlighted content, which indicates the content's score; we agree it would have been obvious to show the score of the content in light of that teaching. *See* Ex. 1006 ¶ 36; Ex. 1004 ¶¶ 298–299. Regarding claims 3, 14, and 19, Dumais teaches providing content search results which are ranked in accordance with user interest. Ex. 1006 ¶¶ 40, 53, 53. Regarding claims 5 and 15, Dumais teaches that its content includes documents, files, and email messages. *Id.* ¶ 31. Regarding claims 8 and 22, as discussed above in § II.D.4.g, Dumais teaches identifying a cognate user based on analysis of historical actions of the user and cognate user, such as past actions. Regarding claim 9, Dumais teaches collaborative filtering techniques that may be limited such that a person having ordinary skill in the art would have understood that the resulting filtering only identifies cognate users, specific and exclusive to one user. *See* Ex. 1006 ¶¶ 51–52, 55; Ex. 1004 ¶¶ 317–322.

Accordingly, we conclude that Petitioner has shown, by a preponderance of the evidence, that the subject matter of claims 2, 3, 5–9,

13–15, 18, 19, and 22 would have been obvious to one of ordinary skill in the art over Dumais.

Regarding Petitioner’s ground based on the combination of Dumais and Marston, Marston teaches a relational mail architecture and we agree that it would have been obvious to improve Dumais’s system by including Marston’s relational mail architecture, thus meeting independent claims 1, 6, and 7. Ex. 1043, code (57); Ex. 1004 ¶¶ 217, 220–221. Regarding claims 2–3, 5, 8–9, 13–15, 18–19, and 22, as discussed above, those claims would have been obvious over Dumais’s teachings alone. Regarding claims 4, 16, and 20, Marston’s relational mail system stores each message and submessage as discrete objects that can be individually referenced. Ex. 1006 ¶¶ 10, 23. Regarding claims 10 and 11, Marston’s relational mail system uses pointers from an email message to a current message and individual, historical submessages. *Id.* ¶¶ 35–36, 46. Regarding claim 12, Marston’s submessages have a job code field used to index the message given the particular discusses process. *Id.* ¶ 37. Regarding claims 17 and 21, as noted above, Marston’s relational mail system uses pointers from an email message to a current message and individual, historical submessages. *Id.* ¶¶ 35–36, 46

Accordingly, we conclude that Petitioner has shown, by a preponderance of the evidence, that the subject matter of claims 1–22 would have been obvious to one of ordinary skill in the art over the combination of Dumais and Marston.

E. Obviousness Based on Kircher and Krug

Petitioner also contends that the subject matter of claims 1–3, 5–9, 13–15, 18–19, and 22 would have been obvious over Kircher and Krug.

Pet. 3, 47–76. Petitioner further contends that the subject matter of claims 4, 10–12, 16, 17, 20, and 21 would have been obvious over Kircher, Krug, and Marston. Pet. 76–77.

Patent Owner opposes, arguing that Petitioner improperly combined Kircher and Krug. PO Resp. 34–41. Patent Owner also contends that Krug does not teach limitation [1f]. *Id.* at 30–34.

We conclude that the challenged claims would have been obvious over the combination of Kircher and Krug. We provide our analysis below.

1. Summary of Asserted Prior Art References

a) Kircher (Ex. 1007)

Kircher relates to techniques for prioritizing and categorizing received electronic messages, e.g., emails, based on predicted importance of the message to the recipient. Ex. 1007 ¶¶ 10, 21, 39. Kircher determines the importance of a received message based on, e.g., the importance of the message sender or the content of the message. *Id.* ¶¶ 72, 85.

Kircher categorizes received messages based on different user actions the recipient is expected take in response to the electronic message, e.g., reading, replying, saving, or deleting the message. *Id.* ¶¶ 45–46, 93. Kircher learns which category to place a message, based on past actions by the recipient. *Id.* ¶ 46; *see also id.* ¶¶ 9, 94.

b) Krug (Ex. 1008)

Krug relates to techniques for individualizing, i.e., tailoring, search results for a specific user. Ex. 1008 ¶¶ 6, 44. For example, Krug determines how relevant an object is to a user's search, e.g., a search of internet websites. *Id.* The relevance of an object to a specific user is determined

based on profiles assigned to that user and profiles assigned to the object. *Id.* ¶¶ 16–20, 56. A user’s profile can be associated with a user group, e.g., a group of all women or a group of all users who have accessed a particular object. *Id.* ¶¶ 31, 49. In that way, objects that are relevant to the group are deemed relevant to each user in the group. *See id.* ¶ 92. Further, the relevance of an object to the user considers “action equivalence,” which increases the relevance of objects with high usage intensity by a group of users. *See id.* ¶¶ 28, 32, 110.

2. *Combination of Kircher and Krug*

Petitioner combines Kircher’s email management application, which prioritizes and filters emails, with Krug’s prioritization and filtering techniques. Pet. 50–54. More specifically, Petitioner adds Krug’s techniques for determining the relevance of electronic content into Kircher’s system for ranking received emails based on the emails’ relevance. *Id.* For example, Petitioner states that, in combination, “Kircher’s emails would have been ranked (in-part) using Krug’s comparison value.” *Id.* at 58. Petitioner also asserts that a person of ordinary skill in the art would have been motivated to do so for reasons directed to improving the accuracy of determining message relevance for email sorting and ranking systems. *Id.* at 54–56 (citing Ex. 1004 ¶¶ 439–446).

Patent Owner opposes, arguing that Petitioner improperly combines Kircher and Krug because the references are not analogous art (PO Resp. 38–39), their combination renders Kircher inoperable (*id.* at 34–37), and the combination relies on hindsight (*id.* at 39–41). We address each argument in turn, below.

a) Analogous Art

Petitioner asserts that “Kircher and Krug are analogous art to the ’217 Patent” because “[a]ll three disclose improvements for email and content management systems.” Pet. 54 (citing Ex. 1001, code (57); Ex. 1007 ¶ 10; Ex. 1008, code (57)). Petitioner further asserts that “Kircher and Krug are also both related to solving the spam problem and identifying relevant documents to users,” which are “the same objectives of the ’217 Patent.” *Id.* at 54–55 (citing Ex. 1001, 1:26–30; Ex. 1007 ¶ 2; Ex. 1008 ¶ 2; Ex. 1004 ¶ 436).

Patent Owner argues that “Krug is not analogous art to the ’217 Patent, and Krug is not analogous art to Kircher.” PO Resp. 38–41; PO Sur-reply 17–18.

When considering whether prior art is analogous, we evaluate “two separate tests” that “define the scope of analogous prior art”: “(1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor’s endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.” *See In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). Patent Owner does not contest Petitioner’s assertion that Kircher is analogous art to the ’217 Patent, which we agree with. *See* PO Resp. 38–41; PO Sur-reply 17–18. Furthermore, we agree with Petitioner that Krug is analogous art to the ’217 Patent under either test.

As to the first test, we agree with Petitioner that the ’217 Patent and Krug are in the same field of endeavor because they both address managing electronic content, and, more specifically, improvements for determining the relevance of electronic content. The ’217 Patent contradicts Patent Owner’s

attempt to limit the field of endeavor of the '217 Patent to a “field” that merely “determin[es] relevance of ‘*sent*’ content.” PO Sur-reply 17. The '217 Patent does not limit itself to electronic mail messages—instead, it states that “one or more embodiments may be applicable to other forms of electronic messages *and content*. For example, one or more embodiments may be used for determining relevance in *document management applications*.” *Id.* at 3:43–51 (emphasis added). As such, Patent Owner’s attempt to limit the field to “sent” content improperly tries to limit the field to a particular embodiment, i.e., particular focus within a given field. *See Unwired Planet, LLC v. Google Inc.*, 841 F.3d 995, 1001 (Fed. Cir. 2016) (“The field of endeavor of a patent is not limited to the specific point of novelty, the narrowest possible of the field, or the particular focus within a given field.”). Krug, which is similarly is concerned with managing electronic content—namely, by determining its relevance—is analogous art to the '217 Patent. *See* Ex. 1008, code (57) (“The invention relates to a method and a device for determining at least one relevant object from a plurality of objects.”).

While it is enough that Krug is in the same field of endeavor as the '217 Patent, we also agree with Petitioner that Krug is analogous art under the second test. As Petitioner points out, the '217 Patent states that “much of the email received by an individual is irrelevant (or more colloquially, is junk)” and the solution to that is to “determine the relevance and/or importance of an instance of electronic mail” or “relevance in document management applications.” Ex. 1001, 1:26–34, 3:34–51. Even assuming, for argument’s sake, Patent Owner is correct that the '217 Patent is limited to sending electronic content and Krug is limited to internet search

(PO Resp. 38–39; PO Sur-reply 17–18), Krug is reasonably pertinent to the problem of determining the relevance of sent electronic content.

Specifically, Krug discusses techniques for “determining at least one relevant object from a plurality of objects,” e.g., electronic documents, especially when faced with a large number of documents. Ex. 1008 ¶ 2, code (57). As such, Krug’s solution of sifting through many electronic documents to determine which documents are relevant is reasonably pertinent to the ’217 Patent’s problem of sifting through many emails to determine which emails are relevant.

Additionally, in arguing “Krug is not analogous art to Kircher” (PO Resp. 38), Patent Owner applies the wrong comparison. The analogous art determination is comparing prior art references “to the claimed invention,” not to each other. *See In re Bigio*, 381 F.3d at 1325.

Accordingly, we find that Kircher and Krug are analogous art to the ’217 Patent.

b) Operability

Patent Owner argues that Petitioner’s combination would render Kircher inoperable. PO Resp. 34–37; PO Sur-reply 10–13. Patent Owner’s arguments revolve around its distinction that Krug’s prioritization technique is an internet browser plug-in that calculates priority for internet search results, whereas Kircher relates to an email ranking system. PO Resp. 34–35 (citing Ex. 1008 ¶ 99; Ex. 1007; Ex. 2029 ¶¶ 118–121, 215–223). Based on that distinction, Patent Owner argues the combination of systems “faces significant challenges” and would “would likely result in unsatisfactory outcomes.” *Id.* at 36. Patent Owner also argues that Krug uses search

engine results to calculate priority, but Krug’s search engine priority calculations are “incompatible” with Kircher’s email system. *Id.* at 37.

We agree with Petitioner that combining the teachings of Kircher and Krug was within the ability of a person of ordinary skill in the art at the relevant time. Patent Owner’s argument that Krug’s plug-in could not be added to Kircher relies on a contrived distinction between internet browsers and email systems. PO Sur-reply 11; PO Resp. 34–35. But Krug’s plug-in is, ultimately, a software program performing Krug’s content prioritization technique. Ex. 1008 ¶¶ 99. Even if Krug describes that its plug-in is software added to an internet browser software application, Kircher’s email system is also a software application. We agree with Petitioner that implementing software features from one piece of software to another is within the skill of the person of ordinary skill in the art. Pet. Reply 12 (citing Ex. 1011, 4; Ex. 1004 ¶¶ 76, 427–433; Ex. 1050, 70:2–7:7; Ex. 1052, 11–15). As Petitioner explains, both references are directed to software techniques for ranking electronic content that compute a numerical relevance score. Pet. 51, 55. Because the references are related to similar software techniques to compute data, we determine that the person of ordinary skill in the art would have been able to address the technical details to successfully combine Kircher and Krug.

Furthermore, Patent Owner’s argument that the combination is inoperable because Krug’s priority technique relies on search engine results unnecessarily requires the wholesale adoption of Krug’s prioritization techniques. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (“The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.”); *In re*

Nievelt, 482 F.2d 965, 968 (CCPA 1973) (“Combining the teachings of references does not involve an ability to combine their specific structures.”). The skilled artisan would have employed inferences and creative steps to apply Krug’s techniques to Kircher’s system to combine the references. *KSR*, 550 U.S. at 401. For example, as Petitioner points out, the person of ordinary skill in the art would have considered which of Krug’s particular prioritization and relevance criteria were applicable for incorporation into Kircher’s relevance system which assesses and weighs relevance criteria. PO Resp. 13 (citing Ex. 1004 ¶¶ 416, 527; Ex. 1007 Fig. 5C; Ex. 1008 ¶¶ 104–129). Further, Petitioner’s expert explains how such relevancy considerations would have been applied, identifying which specific factors and calculations in Krug would have been applied to the assessments and weighting of Kircher. Ex. 1004 ¶¶ 559–562. We agree with Petitioner and its declarant that it would have been “easy and predictable” to add the relevancy considerations Krug describes into Kircher’s system because Kircher’s system weighs relevancy considerations when determining the relevancy of a document and Krug identifies additional relevancy considerations to be further considered. *Id.*; *see also* Ex. 1004 ¶ 426; Ex. 1007 ¶ 44, Fig. 5C.

We also note that Patent Owner’s argument here that “a [person of ordinary skill in the art] would face significant challenges in attempting to combine” Kircher and Krug (PO Resp. 36) is in tension with, and weakened, by its arguments on conception (PO Sur-reply 23). Here, Patent Owner emphasizes the alleged difficulty of adopting Krug’s priority formula for Kircher’s system. *See* PO Resp. 35–37. Conversely, in its arguments on conception, Patent Owner argues that changes to “highly complex”

relevance formulas needing “significant changes” required no “more than ordinary skill . . . to achieve the subsequent, refined algorithms.” PO Sur-reply 23; Ex. 2006, 53 (capitalization changed); Ex. 2003 ¶ 11. Patent Owner’s own diminishment of the difficulty in adopting formulas further suggests that adopting Krug’s techniques for Kircher’s system was within the skill of the person of ordinary skill in the art.

Accordingly, we determine that the person of ordinary skill in the art would have been able to successfully combine Kircher and Krug.

c) Motivation to Combine

Petitioner asserts that a person of ordinary skill in the art would have been motivated combine Kircher and Krug for reasons directed to improving the accuracy of determining message relevance for email sorting and ranking systems. Pet. 54–56 (citing Ex. 1004 ¶¶ 439–446). We find that a person of ordinary skill in the art would have been motivated to combine Kircher and Krug.

Although Patent Owner argues the “only basis for so combining the references appears to be using hindsight reasoning, using the claims as a roadmap, which is prohibited” (PO Resp. 39–41), Petitioner provides a detailed rationale explaining why a person of ordinary skill in the art would have been motivated to combine the references. Specifically, Petitioner explains that Kircher describes a number of reasons a person of ordinary skill in the art would seek to improve email sorting and filtering techniques, e.g., “reducing spam/unimportant emails” and displaying the most important messages when limited by a small display, e.g., a smart phone display. *Id.* at 56–67 (citing Ex. 1007 ¶¶ 2–9). Petitioner states that Krug’s sorting and collaborative filtering techniques “improve the accuracy of relevance

calculations,” which is relevant to a purpose of Kircher’s email system in prioritizing and filtering emails. *Id.* at 55–56. In fact, Petitioner points out that both Kircher and Krug seek to reduce “irrelevant documents.” *Id.* (citing Ex. 1007 ¶ 2; Ex. 1008 ¶ 2). As Kircher describes a system for sorting and ranking a large number of documents, and Krug describes a particular technique which improves sorting and ranking a large number of documents, we agree that a person of ordinary skill in the art would have been motivated to improve Kircher’s sorting and ranking system by incorporating the additional sorting and ranking considerations and techniques taught by Krug.

Petitioner provides additional reasoning for the combination, which we also agree would have motivated the person of ordinary skill in the art to combine Kircher and Krug. In particular, Petitioner states that the combination “is merely a combination of old elements and obvious to try” or a “simple substitution of one known element for another to obtain a predictable result.” Pet. 55. We agree because Krug describes certain relevancy considerations for an electronic document that would have been obvious to use in Kircher’s system which also considers the relevancy of an electronic document.

Patent Owner also asserts Petitioner engaged in impermissible hindsight because Petitioner “fails to articulate how a skilled artisan would so combine the references.” PO Resp. 39 (emphasis omitted)). To the contrary, as discussed in § II.E.2.b, Petitioner has articulated a means of combining the teachings of Kircher and Krug. *See also* Pet. 50–55 (discussing technical aspects of the combination, e.g., using Kircher’s fuzzy

logic system to consider the additional relevancy considerations described by Krug); Pet. Sur-reply 12–13 (discussing the same).

Accordingly, we find that a person of ordinary skill in the art would have been motivated to combine Kircher and Krug and would have achieved the combination with a reasonable degree of success.

3. Obviousness of Independent Claim 1 over Kircher and Krug

Below, we address the limitations recited in claim 1 and focus our discussion on the claim features Patent Owner asserts are not disclosed, taught, or obvious over the combination of Kircher and Krug.

a) Preamble

Petitioner contends that the combination of Kircher and Krug teaches the preamble, i.e., “[a] computer-implemented system for determining a relevance score of a piece of electronic content sent from a sender to a user, the relevance score determined with respect to the user.” Pet. 57–60 (citing Ex. 1007 ¶¶ 10, 21, 24, 39, 49–52, code (57), Fig. 3B; Ex. 1008 ¶¶ 6, 11, 16, 20, 34, 40, 44, 54, 56–57, 81, Fig. 2; Ex. 1004 ¶¶ 448–459). Indeed, Kircher describes a computing device having a processor which carries out the functions of its email relevance determining and ranking system. Ex. 1007 ¶¶ 21, 24, 39, 49–51 Fig. 1–2. And, Krug describes a system which determines the relevance of an electronic content object for a user. Ex. 1008 ¶ 44. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that the combination of Kircher and Krug teaches the preamble.⁴

⁴ Accordingly, we need not determine whether the preamble is limiting. *See Vivid Techs.*, 200 F.3d at 803.

b) Limitation 1[a]

Petitioner contends that the combination of Kircher and Krug teaches “a computer processor.” Pet. 60 (citing Ex. 1007 ¶ 47, Fig. 2; Ex. 1004 ¶¶ 460–461). Indeed, Kircher describes a computing device including a central processing unit. Ex. 1007 ¶ 47, Fig. 2. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that the combination of Kircher and Krug teaches this limitation.

c) Limitation 1[b]

Petitioner contends that the combination of Kircher and Krug teaches “a computer-readable storage medium storing computer program modules configured to execute on the computer processor, the computer program modules.” Pet. 60–61 (citing Ex. 1007 ¶¶ 21, 47; Ex. 1004 ¶¶ 462–466). Indeed, Kircher describes a computer application, which is executed by a computer processor to provide the computing functions it teaches. Ex. 1007 ¶¶ 21, 17. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that the combination of Kircher and Krug teaches this limitation.

d) Limitation 1[c]

Petitioner contends that the combination of Kircher and Krug teaches “a monitoring module configured to track actions by a plurality of users associated with an application for managing electronic content.” Pet. 61–63 (citing Ex. 1007 ¶¶ 9, 25–26, 39, 46, 94–108, Figs. 3A–3B; Ex. 1008 ¶¶ 7, 28, 32, 61, 63–64, 71; Ex. 1004 ¶¶ 467–481). Indeed, Krug tracks a group of users access of an object to provide usage analysis based on their respective

interactions with the object. Ex. 1008 ¶¶ 61, 63–64, 71. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that the combination of Kircher and Krug teaches this limitation.

e) Limitation 1[d]

Petitioner contends that the combination of Kircher and Krug teaches “a first relevance measurement module coupled to the monitoring module and configured to determine a first measure of relevance of the piece of electronic content based at least in part on one or more actions of the user on the piece of electronic content.” Pet. 63–65 (citing Ex. 1008 ¶¶ 9, 28, 69, 107; Ex 1004 ¶¶ 483–485, 490–491). As discussed above in connection with limitation 1[c], Krug tracks user interaction with an object and further determines an “action equivalence” which measures the intensity of the interaction to determine the object’s relevance. Ex. 1008 ¶¶ 28, 69, 107. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that the combination of Kircher and Krug teaches this limitation.

f) Limitation 1[e]

Petitioner contends that the combination of Kircher and Krug teaches “a second relevance measurement module coupled to the monitoring module.” Pet. 65 (citing Ex. 1008 ¶¶ 106–107; Ex 1004 ¶¶ 492–493, 496–499). Indeed, Krug teaches a “comparison value,” which reflects various relevance measures. Ex. 1008 ¶¶ 106–107. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a

preponderance of the evidence, that the combination of Kircher and Krug teaches this limitation.

g) Limitation 1[f]

Petitioner contends that the combination of Kircher and Krug teaches “identify 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 user.” Pet. 65–67 (citing Ex. 1004 ¶¶ 500–511; Ex. 1008 ¶¶ 11, 14, 27, 31, 34, 38, 56–57, Fig. 2).

Patent Owner argues Petitioner fails to show that Krug meets this limitation for three reasons: (1) Petitioner’s expert did not address “the verb ‘identify’” (PO Resp. 30–31), (2) “there is no teaching in Krug that would motivate a [person of ordinary skill in the art] to add [its] feature[s] to Kircher” (*id.* at 31–32), and (3) Petitioner does not show that Krug identifies “a second user that is both ‘a recipient of the piece of electronic content’ and also ‘cognate to the user’” (*id.* at 32–34; PO Sur-reply 14–17) (emphasis omitted).

We determine that Petitioner has shown, by a preponderance of the evidence, that the combination of Kircher and Krug teaches this limitation. Petitioner asserts that Krug identifies other users through its creation of “user groups.” Pet. 65–66 (citing Ex. 1008 ¶¶ 27, 31). Although Patent Owner takes issue with Petitioner’s expert allegedly “ignoring” the “identify” requirement (PO Resp. 30–31), Petitioner has shown where Krug teaches identifying at least one other user. Petitioner points out (Pet. 65–66) that Krug identifies other users to be included in a “user group” in a number of ways:

groups of users can be specified (for example, all women) or determined automatically (for example, all users who access a specific object) . . . The assignment to a group can be initiated by a user himself, i.e., it can be done explicitly, for example, by logging in to a group or community. Furthermore, the assignment can also be made implicitly, e.g., based on the presence of certain properties of the user.

Ex. 1008 ¶ 31. Therefore, Krug “identif[ies] at least one other of the plurality of users” because Krug assigns certain users, e.g., all users who access a specific object, to user groups.

Further, we agree with Petitioner that Krug teaches or suggests that identified other user is both “a recipient of the piece of electronic content and . . . is cognate to the user.” In an example, Petitioner points out that the user group of “all users who access a specific object” identifies users that are both recipients of the content the user is sent and cognate to the user.

Pet. Reply 15–16; *see* Pet. 65–66. Patent Owner asserts that the users in that user group are not cognate in addition to being recipients (PO Sur-reply 15; PO Resp. 32–33), but Petitioner points out that both the user and other user(s) must have received the same content in order to both access that content. Pet. Reply 16. And under the construction discussed above in § II.C.3.2, users are “cognate” to each other where they share similar past user actions—here, accessing the same content. As such, because the user and the other user are grouped based on commonly accessing the same object, both users have received the same content and are also cognate to each other (based on common access). *See* Ex. 1008 ¶ 31.

Patent Owner also argues that the commonly accessed content must be “*the* piece of content being scored” (PO Sur-reply 14–15), but Krug teaches scoring commonly accessed content. As discussed above, Krug calculates a

“comparison value” for searched content, reflecting the relevance of content to be ranked. Ex. 1008 ¶¶ 30, 106–107. When Krug calculates a comparison value for content, Krug scores that content, including for commonly accessed content. *See id.* at Fig. 1 (showing an iterative content search process calculating comparison values). Indeed, Krug describes scoring content that has been accessed by all user group members, wherein “the objects with the highest usage intensity by the user” are scored with “a higher comparison value” in “subsequent searches” (*id.* at ¶ 109), and comparison values further “tak[e] into account the aggregated usage intensity for objects of any group in the collective action equivalence.” *Id.* at ¶¶ 109–110.

Patent Owner further argues that a “group of users that accessed a particular object would be ‘cognate to the [first] user’ only if the first user is also a part of the group.” PO Sur-reply 14. Krug describes such a scenario: Krug’s user groups are comprised of multiple users and any one group member identified teaches “a user” and any other group member identified teaches “at least one other of the plurality of users.” Ex. 1008 ¶ 31.

Additionally, although Patent Owner argues that “there is no teaching in Krug that would motivate a PHOSITA” to incorporate Krug’s teachings into Kircher (PO Resp. 31–32; PO Sur-reply 15), obviousness does not rigidly require a teaching, suggestion, or motivation found in a reference itself. *KSR*, 550 U.S. 402. Even if it did, Petitioner points out that Kircher provides motivation to incorporate Krug’s improvements that, as discussed above in § II.E.2.c, would have motivated a person of ordinary skill in the art to combine the references.

Accordingly, Petitioner has shown, by a preponderance of the evidence, that the combination of Kircher and Krug teaches this limitation.

h) Limitation 1[g]

Petitioner contends that the combination of Kircher and Krug teaches “determine a second measure of relevance of the piece of electronic content as based at least in part on one or more measures derived from the group consisting of” the recitations of limitations 1[g][i]–1[g][iv]. Pet. 67–68 (citing Ex. 1008 ¶ 54; Ex 1004 ¶¶ 512–522). As discussed above in § II.E.3.6, Krug calculates a comparison value that rates the relevance of an object. Ex. 1008 ¶ 54. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that the combination of Kircher and Krug teaches this limitation.

i) Limitation 1[g][i]

Petitioner contends that the combination of Kircher and Krug teaches “a local importance describing an importance of the sender to the user.” Pet. 68–69 (citing Ex. 1007 ¶¶ 48, 72; Ex 1004 ¶¶ 523–526). Indeed, Kircher analyzes and quantifies the importance of an email sender, e.g., if the sender is a known “VIP.” Ex. 1007 ¶¶ 48, 72. Petitioner explains that its combination teaches considering sender importance when determining content relevance. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that the combination of Kircher and Krug teaches this limitation.

j) Limitation I[g][ii]

Petitioner contends that the combination of Kircher and Krug teaches “a global importance describing an importance of the sender within an organization with which the plurality of users are associated.” Pet. 69–70 (citing Ex. 1007 ¶ 72; Ex 1004 ¶¶ 523, 535–538). As discussed above, Kircher quantifies a sender’s importance. Petitioner explains that it would have been obvious to determine sender importance based on an organizational chart, e.g., a manager would have higher importance. Pet. 69–70 (citing Ex. 1028, 11:24–28). Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that the combination of Kircher and Krug teaches this limitation.

k) Limitation I[g][iii]

Petitioner contends that the combination of Kircher and Krug teaches “a content relevance determined responsive to content of the piece of electronic content.” Pet. 70 (citing Ex. 1007 ¶¶ 66, 71–72; Ex. 1008 ¶¶ 41, 115; Ex. 1004 ¶¶ 539–546). Indeed, Krug analyzes the text of the content for relevance based on similarity. Ex 1008 ¶ 41. Kircher also describes a process of analyzing message content. Ex. 1007 ¶¶ 66, 71. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that the combination of Kircher and Krug teaches this limitation.

l) Limitation I[g][iv]

Petitioner contends that the combination of Kircher and Krug teaches “one or more actions on the piece of electronic content of the 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 user.” Pet. 70–71 (citing Ex. 1008 ¶¶ 28, 71, 107, 110; Ex. 1004 ¶¶ 547–555). As discussed above, Krug’s “action equivalence” determines content relevance based on the content’s “usage intensity” by an individual or group. Ex. 1008 ¶¶ 28, 107. Krug further describes “collective action equivalence” which takes into account the aggregated usage intensity for objects of any group to determine collective favorites. *Id.* ¶ 110. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that the combination of Kircher and Krug teaches this limitation.

m) Limitation 1[h]

Petitioner contends that the combination of Kircher and Krug teaches “a relevance analysis module configured to determine the relevance score of the piece of electronic content sent from the sender to the user, the relevance score being determined based at least in part on the first determined measure of relevance and on the second determined measure of relevance.” Pet. 71–74 (citing Ex. 1008 ¶¶ 54; Ex. 1004 ¶¶ 556–566). As discussed above in § II.E.3.6, Krug teaches a comparison value. Further, Krug’s comparison value calculates content relevance based on individual criteria and action equivalence by the user and user group. Ex. 1008 ¶¶ 28, 54, 69, 106–107. Patent Owner does not dispute this contention. *See* PO Resp. We find that Petitioner has shown, by a preponderance of the evidence, that the combination of Kircher and Krug teaches this limitation.

n) Conclusion as to Claim 1

For the reasons provided above, we are persuaded that the subject matter of claim 1 would have been taught or suggested by the combination of Kircher and Krug. As discussed below in § II.F, Patent Owner's objective indicia of nonobviousness does not outweigh Petitioner's showing. Accordingly, we determine that Petitioner has shown, by a preponderance of the evidence, that the subject matter of independent claim 1 would have been obvious over the combination of Kircher and Krug.

4. Remaining Claims and Grounds

Petitioner provides argument and evidence in support of its contention that remaining claims 2–3, 5–9, 13–15, 18, 19, and 22 are taught, suggested, or would have been obvious over the combination of Kircher and Krug. Pet. 74–76. Petitioner provides further argument and evidence in support of its contention that claims 4, 10–12, 16, 17, 20, and 21 would have been obvious over the combination of Kircher, Krug, and Marston. *See* Pet. 45–47, 76–77.

Patent Owner does not address claims 2–22 beyond linking those claims to arguments that Kircher and Krug do not teach limitation [1f], which we addressed in claim 1. *See* PO Resp. 41. For reasons provided above in § II.E.3, Patent Owner's arguments are unavailing.

As to Petitioner's analysis addressing the subject matter recited in claims 2–22, Petitioner provides citations and reasoned analysis supported by the record to show that the claims would have been obvious by a preponderance of evidence. *See* Pet. 45–47, 74–77.

Regarding the remaining claims challenged over the combination of Kircher and Krug, claims 6 and 7 are independent claims that recite similar

subject matter as independent claim 1. *See* Ex. 1001, 48:16–49:20. As such, we determine that Petitioner has shown that subject matter of claims 6 and 7 would have been obvious over Kircher and Krug for the same reasons discussed above in § II.E.3. Regarding claims 2, 13, and 18, Kircher teaches an email inbox, which prioritizes emails and presents corresponding numerical values assigned to each email. Ex. 1007 ¶¶ 49–51, Fig. 3. Regarding claims 3, 14, and 19, Krug teaches a comparison value which is used to rate the relevance of an object to a search query. Ex. 1008 ¶ 20. Regarding claims 5 and 15, Krug teaches that its content are electronic documents and Kircher teaches that its content includes emails, faxes, and telephone messages. Ex. 1007 ¶ 39; Ex. 1008 ¶ 6. Regarding claims 8 and 22, as discussed above in § II.E.3.g, the combination of Kircher and Krug teaches identifying a cognate user based on analysis of historical actions of the user and cognate user, such as accessing the same content. Regarding claim 9, Krug teaches assigning users to multiple profiles, e.g., typical and non-typical users; we agree that a person having ordinary skill in the art would understand that typical users and non-typical users would not be cognate to each other based on that characteristics but would be cognate based on other characteristics. Ex. 1008 ¶¶ 31, 38–39; Ex. 1004 ¶¶ 591–593.

Accordingly, we conclude that Petitioner has shown, by a preponderance of the evidence, that the subject matter of claims 2, 3, 5–9, 13–15, 18, 19, and 22 would have been obvious to one of ordinary skill in the art over the combination of Kircher and Krug.

Regarding Petitioner’s ground based on the combination of Kircher, Krug, and Marston, as noted above in § II.D.5, Marston teaches a relational

mail architecture and we agree that it would have been obvious to further improve the combination of Kircher and Krug by including Marston's relational mail architecture, thus meeting independent claims 1, 6, and 7. Regarding claims 4, 16, and 20, Marston's relational mail system stores each message and submessage as discrete objects that can be individually referenced. Ex. 1043 ¶¶ 10, 23. Regarding claims 10 and 11, Marston's relational mail system uses pointers from an email message to a current message and individual, historical submessages. Ex. 1043 ¶¶ 35–36, 46. Regarding claim 12, Marston's submessages have a job code field used to index the message given the particular discusses process. Ex. 1043 ¶ 37. Regarding claims 17 and 21, as noted above, Marston's relational mail system uses pointers from an email message to a current message and individual, historical submessages. Ex. 1043 ¶¶ 35–36, 46

Accordingly, we conclude that Petitioner has shown, by a preponderance of the evidence, that the subject matter of claims 4, 10–12, 16, 17, 20, and 21 would have been obvious to one of ordinary skill in the art over the combination of Kircher, Krug, and Marston.

F. Objective Indicia of Nonobviousness

Patent Owner has presented, and so we analyze, objective indicia of nonobviousness (also known as secondary considerations). PO Resp. 53–56; *see* Exs. 2080–2084.

“The objective indicia of non-obviousness play an important role as a guard against the statutorily proscribed hindsight reasoning in the obviousness analysis.” *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1328 (Fed. Cir. 2016). Objective indicia “may often be the most probative and cogent evidence in the record” and “must be considered in every case”

where present. *Id.* (quotation and emphasis omitted); *see also Graham*, 383 U.S. at 36 (“[Objective indicia] may also serve to guard against slipping into use of hindsight, and to resist the temptation to read into the prior art the teachings of the invention in issue.” (internal quotation marks and citation omitted)).

“In order to accord substantial weight to secondary considerations in an obviousness analysis, the evidence of secondary considerations must have a nexus to the claims, *i.e.*, there must be a legally and factually sufficient connection between the evidence and the patented invention.” *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373 (Fed. Cir. 2019) (citations and internal quotation marks omitted). “The patentee bears the burden of showing that a nexus exists.” *Id.* A patent owner is entitled to a rebuttable presumption of nexus “when the patentee shows that the asserted objective evidence is tied to a specific product and that product ‘embodies the claimed features, and is coextensive with them.’” *Id.* (citation omitted). Alternatively, the patent owner may prove nexus “by showing that the evidence of secondary considerations is the “direct result of the unique characteristics of the claimed invention.” *Id.* at 1373–74 (quotation omitted).

Patent Owner argues that evidence of commercial success, long-felt need, failure by others, industry praise, recognition of the problem solved, and copying show that claim 1 would not have been obvious. PO Resp. 53–56; PO Sur-reply 26–27. Petitioner argues that Patent Owner fails to establish nexus and further contests that the evidence indicates nonobviousness. *See* Pet. Reply 28–30.

Having considered the parties' arguments and evidence, we determine that Patent Owner fails to sufficiently show a nexus between any of its evidence and the claimed invention. *See Fox Factory*, 944 F.3d at 1373 (“The patentee bears the burden of showing that a nexus exists.”).

In fact, Patent Owner's Response does not address the nexus requirement at all. *See* PO Resp. 53–56. First, Patent Owner has not shown that it is entitled to a presumption of nexus because it does not identify which specific features in what product embody the claimed features or are coextensive with them. *See* PO Resp. 53–56; PO Sur-reply 26–27.

Nor does Patent Owner establish nexus by showing that any of its objective indicia evidence is the direct result of the unique characteristics of the claimed invention. Patent Owner does not address a number features that Patent Owner itself identifies as unique to the claimed invention. For example, Patent Owner argues the claimed relevancy calculations based on another user who is a “recipient of the piece of electronic content” are part of the “focus of the '217 Patent” (PO Resp. 8) and distinguish over the prior art challenges (*id.* 32–34, 49–51). But, in its discussion of objective indicia, Patent Owner does not address that particular feature. *See id.* at 53–56. In another example, Patent Owner does not address how the objective indicia are the result of other relevancy considerations calculated by the claim, i.e., “the relevance score being determined based on . . . the first determined measure of relevance and on the second determined measure of relevance.” *See id.* In a nutshell, Patent Owner argues that the '217 Patent claims a unique manner of determining relevancy, but does not explain how its objective indicia evidence is attributable to that unique manner of determining relevancy.

As it is Patent Owner's burden to show nexus and Patent Owner has not adequately discussed nexus, Patent Owner's objective indicia evidence are given little to no weight for this reason alone. *See Fox Factory*, 944 F.3d 1373. As a result, Patent Owner's objective indicia evidence does weight in favor of nonobviousness.

G. Conclusion

As discussed above, Petitioner shows persuasively that Dumais (with or without AAPA), the combination of Dumais and Marston, the combination of Kircher and Krug, and the combination of Kircher, Krug, and Marston teach every limitation of claims 1–22. We do not accord significant weight to any objective indicia of nonobviousness, for the reasons expressed above, and hence Patent Owner's evidence in that regard does not outweigh Petitioner's showing.

Accordingly, we determine that Petitioner has shown, by a preponderance of the evidence, that the subject matter of claims 1–3, 5–9, 13–15, 18, 19, and 22 would have been obvious over Dumais, with or without AAPA; claims 1–22 would have been obvious over the combination of Dumais and Marston; claims 1–3, 5–9, 13–15, 18, 19, and 22 would have been obvious over the combination of Kircher and Krug; and claims 4, 10–12, 16, 17, 20, and 21 would have been obvious over the combination of Kircher, Krug, and Marston.

III. PATENT OWNER'S MOTION TO EXCLUDE

Patent Owner moves to exclude certain portions of Dr. Khan's cross-examination testimony (Ex. 1058), certain portions Justin Marston's cross-examination testimony (Ex. 1050), and certain portions Paul Marston's

cross-examination testimony (Ex. 1064). Paper 43, 10–11. Patent Owner argues that these declarations should be excluded because the cross-examination testimony is outside the scope of direct testimony and personal knowledge, irrelevant, or prejudicial. *See* Paper 43.

We have not considered any of the evidence Patent Owner moves to exclude in this Decision. As a result, Patent Owner’s Motion to Exclude this evidence is dismissed is moot.

IV. PETITIONER’S MOTION TO EXCLUDE

Petitioner moves to exclude: (1) all of Dr. Khan’s testimony (Exs. 1058, 2001, 2029); (2) the Claim Chart for BlueSpace Mail Documents (Ex. 2014); (3) the Conception Documents (Ex. 2004; Ex. 2006); (4) paragraphs 58, 59, and 62 of Justin Marston’s September 9, 2025 Declaration (Ex. 2030) and paragraphs 19 and 24–26 of Paul Marston’s September 9, 2025 Declaration (Ex. 2031); (5) a collection of webpages and news articles (Exs. 2080–283); a (7) a privilege log between Justin Marston and BlueSpace counsel (Ex. 2042); and a collection of “BlueSpace Mail Relevance” documents (Exs. 2032–3029, 2041–2078). *See* Pet. Mot. (Paper 44).

Because we have determined that all challenged claims are unpatentable without excluding the evidence Petitioner seeks to exclude, Petitioner’s Motion to Exclude is moot.

V. CONCLUSION⁵

Based on the evidence presented with the Petition, the evidence introduced during the trial, and the parties' respective arguments, Petitioner has shown by a preponderance of the evidence that claims 1–22 are unpatentable.

In summary:

Claims	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–3, 5–9, 13–15, 18, 19, 22	103(a)	Dumais	1–3, 5–9, 13–15, 18, 19, 22	
1–3, 5–9, 13–15, 18, 19, 22	103(a)	Dumais, AAPA	1–3, 5–9, 13–15, 18, 19, 22	
1–22	103(a)	Dumais, Marston	1–22	
1–3, 5–9, 13–15, 18, 19, 22	103(a)	Kircher, Krug	1–3, 5–9, 13–15, 18, 19, 22	
4, 10–12, 16, 17, 20, 21	103(a)	Kircher, Krug, Marston	4, 10–12, 16, 17, 20, 21	
Overall Outcome			1–22	

⁵ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

VI. ORDER

In consideration of the full trial record before us, and for the foregoing reasons, it is:

ORDERED that claims 1–22 of U.S. Patent No. 7,716,217 B2 are determined to be unpatentable;

FURTHER ORDERED that Patent Owner’s Motion to Exclude (Paper 43) is *dismissed* as moot;

FURTHER ORDERED that Petitioner’s Motion to Exclude (Paper 44) is *dismissed* as moot;

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2; and

FURTHER ORDERED that the parties shall jointly email a proposed redacted version of this paper no later than 14 days from the entry of this Decision to Trials@uspto.gov, and if no redacted version is received within that time period, this Decision shall be made public.

IPR2025-00299
Patent 7,716,217 B2

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