

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

X CORP.

Petitioner,

v.

STERLING COMPUTERS CORPORATION

Patent Owner.

Case IPR2025-00299

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

**PATENT OWNER'S PRELIMINARY RESPONSE
UNDER 37 C.F.R. § 42.107**

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	BACKGROUND	5
	A. The ‘217 Patent	5
	B. ‘217 Patent Claims.	9
	C. Petitioner’s Grounds	11
III.	PERSON OF ORDINARY SKILL.....	12
IV.	CLAIM CONSTRUCTION.....	12
	A. Legal Standard	12
	B. The “computer program module” terms are not subject to Section 112(6).	12
	1. The Claims Recite Structure Because “Computer Program Modules” Connote Structure.....	12
	2. The Claims Continue by Reciting Specific Modules, Confirming That “ <i>Computer Program Modules</i> ” Constitutes Structure.....	14
	3. Petitioner Has Not Carried Its Burden To Overcome The Presumption Against Means-Plus-Function Treatment.	19
	4. Petitioner’s Cases Are Inapposite.	19
	C. Construction of “a recipient”	20
V.	THE BOARD SHOULD NOT INSTITUTE ON ANY OF GROUNDS 1-5.....	22
	A. Legal Standards	22
	1. Petitioner’s Burden	22
	2. Obviousness	23
	B. The Board Should Reject Grounds 1-3 Because Dumais Is Not Prior Art to the ‘217 Patent.	24

C.	The Board Should Reject Grounds 1-3 Because Dumais, Alone or in Combination With Petitioner’s Other References, Does Not Render Obvious Any Claim of the ‘217 Patent.	25
1.	The Dumais Reference.	26
2.	Grounds 1-3: Dumais Does Not Teach, Disclose, or Render Obvious Limitation Nos. 1[f] / 6[d] / 7[b]: “ <i>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.</i> ”	28
3.	Petitioner Does Not Assert that AAPA or Marston Disclose the Missing Limitations Discussed Above.	35
D.	The Board Should Reject Grounds 4 and 5 Because the Combination of Kircher and Krug Does Not Render Obvious Any Claim of the ‘217 Patent.	35
1.	The Kircher and Krug References	36
2.	Krug Does Not Teach, Disclose, or Render Obvious the “ <i>identify...</i> ” Limitation and, Therefore, the Combination of Kircher and Krug Does Not Render Obvious Any Claim.	40
3.	A POSA Would Not Be Motivated to Combine Kircher and Krug.	44
E.	Petitioner’s Alleged Obviousness Combination of Kircher, Krug, and Marston Does Not Render Obvious Any Claim.	49
VI.	CONCLUSION	49

TABLE OF AUTHORITIES

<u>Case</u>	<u>Page(s)</u>
<i>BioDelivery Scis. Int’l, Inc. v. Aquestive Therapeutics, Inc.</i> , 935 F.3d 1362 (Fed. Cir. 2019).....	22-23
<i>Dyfan, LLC v. Target Corp.</i> , 28 F.4th 1360 (Fed. Cir. 2022).....	12-15 & 19
<i>Ecolochem, Inc. v. S. California Edison Co.</i> , 227 F.3d 1361 (Fed. Cir. 2000).....	24
<i>Finisar Corp. v. DirecTV Group, Inc.</i> , 523 F.3d 1323 (Fed. Cir. 2008).....	20
<i>Grecia v. Samsung Electronics America, Inc.</i> , 780 Fed. App’s 912 (Fed. Cir. 2019).....	20
<i>In re Kahn</i> , 441 F.3d 977 (Fed. Cir. 2006).....	24
<i>In re Katz Interactive Call Processing Patent Litigation</i> , 639 F.3d 1303 (Fed. Cir. 2011).....	20
<i>In re Magnum Oil Tools Int’l, Ltd.</i> , 829 F.3d 1364 (Fed. Cir. 2016).....	23
<i>InTouch Technologies, Inc. v. VGO Communications, Inc.</i> , 751 F.3d 1327 (Fed. Cir. 2014).....	24, 48
<i>KSR Int’l Co. v. Teleflex, Inc.</i> , 550 U.S. 398 (2007).....	23-24, 48
<i>Mintz v. Dietz & Watson, Inc.</i> , 679 F.3d 1372 (Fed. Cir. 2012).....	48
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005).....	12, 20
<i>Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.</i> , 655 F.3d 1364 (Fed. Cir. 2011).....	23
<i>TQ Delta, LLC v. CISCO Sys., Inc.</i> , 942 F.3d 1352 (Fed. Cir. 2019).....	48
<i>Williamson v. Citrix Online LLC</i> , 792 F.3d 1339 (Fed. Cir. 2015).....	19
<i>Zeroclick, LLC v. Apple, Inc.</i> , 891 F.3d 1003 (Fed. Cir. 2018).....	13-15

<u>Statutes</u>	<u>Page(s)</u>
35 U.S.C. § 103.....	11, 23-24
35 U.S.C. § 102.....	11
35 U.S.C. § Section 112(6).....	12, 19-20
35 U.S.C. § 316(e).....	23
35 U.S.C. § 314(a).....	22

EXHIBIT LIST

Patent Owner's Exhibit No.	Exhibit Description
2001	Declaration of Latifur Khan
2002	Curriculum vitae of Latifur Khan
2003	Declaration of Justin Marston
2004	"BlueSpace Mail Search" Document, Sept. 2, 2004
2005	"The Development of the Mathematical Algorithms," May 12, 2005
2006	"BlueSpace Mail Relevance," June 7, 2005
2007	"BlueSpace Mail Relevance," Aug. 16, 2005
2008	"BlueSpace Mail Relevance," Aug. 17, 2005
2009	"Importance," Sept. 18, 2005
2010	"BlueSpace Mail Relevance," Oct. 6, 2005
2011	"BlueSpace Mail Relevance," Oct. 7, 2005
2012	"BlueSpace Mail Relevance," Oct. 7, 2005
2013	"There are many cognate relevance values that must be calculated," Nov. 9, 2004
2014	Claim Chart for BlueSpace Mail Documents

I. INTRODUCTION

Sterling Computers Corporation (“Patent Owner”) submits this Preliminary Response to the Petition of X Corp. (“Petitioner”) seeking *inter partes* review (“IPR”) of U.S. Patent No. 7,716,217 (“the ‘217 Patent”). Patent Owner respectfully requests that the Board deny the Petition, because Petitioner has failed to establish a reasonable likelihood that it will prevail in showing that the challenged claims are unpatentable.

The ‘217 Patent describes and claims inventions relating to determining a relevance score of sent pieces of electronic content (e.g., emails, instant messages, etc.) and displaying the electronic messages to a recipient based on the relevance determination. As described in the specification, determining the relevance score of an electronic message involves very complicated mathematics as applied to actions by a recipient to the electronic message. Using the relevance score, in part, to determine the order in which electronic messages are displayed provides significantly greater benefits to users of applications for managing messages.

The claims cover inter-person communications systems and methods that display content to a recipient based on relevance to the recipient. A relevance score is determined for every electronic message in the system because relevance is used to determine the order in which electronic messages are displayed to each user in the system. The relevance score is personalized to the specific user. In order to determine the relevance score for a piece of sent electronic content, the system tracks the actions of both the specific user (e.g., a “first” user) and also tracks the actions of a plurality of users (i.e., other recipients of sent pieces of electronic content – e.g., a “second” user). For example, a piece of sent electronic content

would receive a higher relevance score if the first user opened the message and forwarded it on to other users and if a second recipient of the same piece of content also read the message and, e.g., replied to it.

The prior art relied on by the Petitioner never tackled the problem of determining relevance of an electronic message based on the actions of multiple recipients. Two of the references, Dumais and Krug, are not focused on inter-person communications, but instead describe systems for retrieving results in response to a search query (e.g., on the Internet). For example, Dumais discusses that the type of data that can be searched for, retrieved, and ranked includes spread sheets, Internet or Web data, and so forth. EX1006, [0035]. Krug discusses that the type of “objects” it determines relevance for can include “the plurality of objects on the Internet, in particular, from electronic catalogs of mail order companies.” EX1008, [0010]. Because they are not focused on inter-person communications, neither Dumais nor Krug identify other users that received the same piece of sent content as a first user for the purpose of tracking those other users’ actions. The third reference, Kircher, does address sent pieces of electronic content, but the similarities to the ‘217 Patent stop there. In particular, Kircher does not rank messages using either (1) the first user’s actions on the message or (2) the actions of any other recipient of the same message. Tracking such actions is a fundamental feature of every claim in the ‘217 Patent and, therefore, Kircher also does not render obvious any claim of the ‘217 Patent.

A key difference between Dumais and Krug, on the one hand, and the ‘217 Patent, on the other hand, is that the ‘217 Patent ranks all sent content in a database. In contrast, Dumais and Krug rank only the documents that result from a user’s search. Also, in the

'217 Patent, all content in the database is ranked without the benefit of a user telling the system what the user is searching for, whereas, in Dumais and Krug, the user tells the system what files the user is searching for when the user conducts the search. In other words, the system of the '217 patent is not dependent on a user to perform a search; rather, the '217 patent system operates in the absence of any search. These are critical differences between the '217 Patent and the retrieval systems of Dumais and Krug. A skilled artisan would not look to these retrieval systems to solve the problem of receiving an unwieldy number of messages in an inter-person communications system.

In addition to the fundamental differences between Dumais and the '217 Patent, an independent reason that Dumais does not render obvious any claim of the '217 Patent is because Dumais does not qualify as prior art under 102(e). This is because the inventors of the '217 Patent, Justin and Paul Marston, invented before Dumais' patent application was filed. Petitioner relies on Dumais as the primary reference in the first three Grounds of Petitioner's challenge. For this reason alone, the Board should not institute on Grounds 1-3.

Even if the Dumais reference were prior art to the '217 Patent, which it is not, Dumais, alone or in combination with other art, still does not render obvious any challenged claim. Dumais fails to render any challenged claim obvious because it does not address determining relevance of sent electronic messages in an inter-person communication system. A skilled artisan would not look to a reference that is focused on searching and retrieving results to create the inventions of the '217 Patent, which focus on

pieces of electronic content that are “*sent*”¹ from “*a senders*” to “*a recipient*,” and which require an examination of other users that received the same piece of electronic content as the first user.

The Krug reference, like Dumais, is a system for retrieving personalized results in response to a search query. For example, Krug relates to searching electronic catalogs of mail order companies on the Internet. Krug does not disclose, teach, or suggest determining the relevance of a piece of electronic content that is “*sent*” from “*a sender*” to “*a recipient*.” Because Krug does not relate to “*sent*” content at all, Krug also does not require “*identify[ing]*” any other user that received the same piece of sent electronic content that the user received (i.e., “*a recipient*”).

Finally, the Kircher reference, which is other primary reference that Petitioner relies upon, fails to render obvious any of the challenged claims. Kircher relates to a spam filter for delivering messages to a recipient; it does not disclose, teach or suggest determining relevancy of a sent electronic message based on an examination of other users that received the same piece of electronic content as the user. Kircher does not use the first user's actions on the piece of electronic content to determine a relevance score to the piece of electronic content. Kircher also does not track the actions of other users on the same piece of electronic content to assign a relevance score, and Kircher does not identify other users that received the same piece of content or identify other users that are similar to the first user.

¹ Italics indicate claim language.

II. BACKGROUND

A. The '217 Patent

The '217 Patent, entitled “[d]etermining relevance of electronic content,” involves systems and methods relating to person-to-person communications. Every claim requires electronic communications, including “*a sender*,” a “*sent*” “*piece of electronic content*,” and “*a recipient*.” EX1001, Claims 1, 6, 7. “Electronic content” is defined broadly to include all electronic content that is sent from a sender to a recipient, and may include e-mail, instant messages, and blogs that are delivered to users by blog publishers (similar to newsletters). EX1001, 3:43-51; EX1003, at 58.

The invention of the '217 Patent is designed to assist users to efficiently manage their electronic content. For example, the '217 Patent addresses the large volume of email that people may receive. EX1001, 1:27-27 (“many email users receive hundreds of different emails a day”). Even after weeding out “junk” email, users “must still take the time to go through those emails to determine which ones are more important than others.” EX1001, 1:28-34. In order to find the important emails prior to the invention of the '217 Patent, users were forced to mine through email using “unintelligent mechanisms (e.g., keyword, sender, recipient, and/or date range searches).” EX1001, 1:40-44.

To address this problem, the '217 Patent determines a “*relevance score*” for each “*piece of electronic content that is sent from a sender to a user*.” EX1001, Claims 1, 6, 7. The invention determines relevance and importance values by monitoring users' actions, EX1001, 6:1-3; user “actions” “represent the ways users interact with the electronic mail

system, e.g. reading mails, replying to mails, changing settings.”² EX1001, 8:32-35.

These user actions provide valuable information regarding the relative importance of the message or email:

[U]sers' actions may indicate valuable information about both content and entities in the system. For example, if a user receives an electronic mail object, saves the electronic mail in a custom folder and subsequently forwards it to three other users, then the electronic mail is likely to be much more relevant to those users than if the sending user had just deleted the electronic mail as soon as he or she had finished reading it.

EX1001, 5:11.

The system tracks and uses the first user's actions to determine a relevance score. EX1001, 11:10-23. Significantly, however, the system also monitors and uses the actions of **other users** – i.e., “*actions by a plurality of users* – as well. The ‘217 Patent is focused on how multiple, different users interact with the same piece of sent electronic content. For example, every claim of the ‘217 Patent requires tracking the actions of multiple users with respect to those electronic communications. EX1001, Claims 1, 6, 7 (“*track[ing] actions by a **plurality of users** associated with an application for managing electronic content*” (emphasis added)). In order to do so, every claim of the ‘217 Patent requires “*identify[ing]*” at least one other “*recipient*” of the same piece of electronic content. EX1001, Claims 1, 6, 7.

² These are just general examples; the patent provides a long and non-exclusive list of relevant “user actions.” See EX1001, at 11:10-23.

The '217 Patent describes using the actions of other users that are "*cognate*" to the first user, i.e., "other users considered to be the most similar to the user concerned." EX1001, 33:58-62 and Claims; *see also* EX1001, 42:62-63 (a cognate group consists of "users most similar to a given user/recipient"). In order to determine a "*relevance score*," the '217 Patent identifies other recipients that received the same piece of electronic content and then monitors "the direct actions of the cognate group on this particular electronic mail object." EX1001, 36:29-31. *See also* EX1001, 36:28-29; EX1001, 36:59-62 ("[I]t may be particularly useful to a given user to know what, for example, cognate users, have done with the electronic mail object soon after it arrives.").

The specification provides a detailed description, over the span of 20+ columns, of the mathematical calculations that may be used in a relevance analysis engine, including how such a relevance analysis engine may be implemented in software and/or hardware. EX1001, 25:17-23; *see generally id.* 25:17-46:60. The specification also provides a description of "measures of relevance" used by the system. Specifically, the "*relevance score*" is determined based on two separate measures of relevance. EX1001, Claims 1, 6, 7 ("*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.*").

The "*first measure of relevance*" is "*based at least in part on one or more actions of the user on the piece of electronic content.*" EX1001, Claims 1, 6, 7; *see also* EX1001, 5:45-48 ("an electronic mail relevance application helps users make sense of vast quantities of electronic mail by inferring a user's interest in content and other users based on **monitoring that user's actions** with in [sic] the application." (emphasis added)).

The “*second measure of relevance*” is “*based at least in part on one or more measures derived from the group consisting of*: [i] “*a local importance describing an importance of the sender to the user,*” [ii] “*a global importance describing an importance of the sender within an organization with which the plurality of users are associated,*” [iii] “*a content relevance determined responsive to content of the piece of electronic content,*” and [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.*”³ EX1001, Claims 1, 6, 7.

The “*local importance*” measure focuses on the “*importance of the sender to the user.*” EX1001, Claims 1, 6, 7. For example, “it is likely that a user’s direct manager will be important to the user because the user will typically read messages from their manager in a timely manner, will often reply to those messages, and will send their manager a significant number of electronic mail objects.” EX1001, 6:12-17.

The “*global importance*” measure focuses on the “*importance of the sender within an organization with which the plurality of users are associated.*” EX1001, Claims 1, 6, 7. Specifically, “users’ actions ... reflect how significant a given entity is to a given user or set of users.” EX1001, 8:46-47.

“*[A] content relevance*” measure is “*determined responsive to content of the piece of electronic content.*” EX1001, Claims 1, 6, 7. “Relevance **84** may have as inputs the

³ The ‘217 Patent makes clear that users can provide active feedback to “improve [the] accuracy of the relevance analysis engine.” EX1001, at 7:64-67.

mail data **80** (properties of **the content** in question)....” EX1001, 8:58-59 (emphasis added).

The final measure that makes up the second measure of relevance is “*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.*”

EX1001, Claims 1, 6, 7.

B. ‘217 Patent Claims.

The Petition challenges each of the ‘217 Patent’s independent claims. Claim 1 is exemplary:

1. 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:

a computer processor; and

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

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

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;

a second relevance measurement module coupled to the monitoring module and configured to:

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

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:

a local importance describing an importance of the sender to the user,

a global importance describing an importance of the sender within an organization with which the plurality of users are associated,

a content relevance determined responsive to content of the piece of electronic content, and

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

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.

EX1001, Claim 1. Independent Claim 6 shares many limitations with Independent Claim 1 but claims a computer program product. Independent Claim 7 also shares many limitations with independent Claim 1, but Claim 7 is a method claim and does not contain the “*module*” limitations of Claims 1 and 6.

The relevance determination of a piece of electronic content as claimed requires the following:

- Actions of the user on the piece of electronic content to determine a 1st relevancy measure;
- Identify one of the other user that is both a recipient of the same piece of electronic content and also is cognate to the user;

- And use at least one of the following to get a 2nd relevance measure:
 - Local importance of the sender to the user;
 - Global importance of the sender in the organization;
 - Content relevance based on content in the piece of electronic content;
 - or
 - Actions on the piece of electronic content by another user that is both a recipient of the same piece of electronic content and also is cognate to the user.

EX1001, Claims 1, 6, 7.

C. Petitioner's Grounds

Petitioner challenges Claims 1-22 of the '217 Patent (the "Challenged Claims") pursuant to five grounds:

Ground	Challenged Claims	Asserted Prior Art	Statutory Grounds
1.	1-3, 5-9, 13-15, 18-19, 22	Dumais	§ 103
2.	1-3, 5-9, 13-15, 18-19, 22	Dumais in view of AAPA	§ 103
3.	1-22	Dumais in view of Marston	§ 103
4.	1-3, 5-9, 13-15, 18-19, 22	Kircher and Krug	§ 103
5.	4, 10-12, 16-17, 20-21	Kircher and Krug with Marston	§ 103

The statutory ground for each of the five challenges is obviousness under Section 103; Petitioner does not assert that any of the Challenged Claims are anticipated.

III. PERSON OF ORDINARY SKILL

The person of ordinary skill in the relevant art—computer science—would have at least a bachelor’s degree in electrical or computer science/engineering, or a related field, with at least six years of experience in the design or implementation of content management and analysis systems or a masters degree in electrical or computer science/engineering, or a related field, with at least two years of experience in the design or implementation of content management and analysis systems. EX2001, ¶ 14. A higher level of education or skill can make up for less experience, and vice versa. *Id.*

IV. CLAIM CONSTRUCTION

A. Legal Standard

In this proceeding, the claim terms must be construed according to the standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–15 (Fed. Cir. 2005).

B. The “computer program module” terms are not subject to Section 112(6).

1. The Claims Recite Structure Because “Computer Program Modules” Connote Structure.

Petitioner concedes – as it must – that the claims are not written in means-plus-function format, and that therefore, presumptively, Section 112(6) does not apply. *Dyfan, LLC v. Target Corp.*, 28 F.4th 1360, 1367 (Fed. Cir. 2022). But Petitioner ignores the actual language of the claims, which – far from invoking “black box” claiming of Section 112(6) – clearly and expressly recite structure. EX2001, ¶¶ 21-36; EX2003, ¶¶ 15-30.

The claims recite a computer program stored on a computer readable storage medium: “*a computer-readable storage medium storing computer program modules*

configured to execute on the computer processor, the computer program modules ...”

EX1001, Claim 1. The Federal Circuit has long held that limitations such as these recite structure. For example, in *Zeroclick, LLC v. Apple, Inc.*, the Federal Circuit held that the terms “program” and “user interface code” were not means-plus-function terms, reversing a district court finding that improperly “removed the terms from their context, which otherwise strongly suggest the plain and ordinary meaning of the terms.” 891 F.3d 1003, 1008 (Fed. Cir. 2018). Similarly, in *Dyfan*, the Federal Circuit held that limitations directed to “code” were directed to structure, because one of skill would recognize that “code” was directed to conventional programs or code. 28 F.4th at 1367-68. The court noted expert testimony that one of skill would understand that “code” is “a bunch of software instructions.” *Id.* at 1368.

Here, the ‘217 Patent makes clear that “*computer program*” refers to software instructions. EX1001, Claims 1 & 6; EX2001, ¶ 24. The specification makes clear that when “*modules*”⁴ are contained on a “*computer-readable storage medium*” as claimed, “the functionality [of the modules] ... may be carried out in response to one or more processors executing software instructions stored on the computer-readable medium.” EX1001, 7:2-12. *See also* E.g., EX1003, at 83 (“Software Implementation”); EX1001,

⁴ The ‘217 Patent explicitly defines the term “*module*” as “any program, circuitry, logic, and/or functionality implemented in either software and/or hardware.” EX1001, 6:36-38. “[C]omputer program modules” explicitly indicates that the recited modules are “programs,” and the fact that they are described as being stored on “a *computer-readable storage medium*” necessarily means that the recited modules are software instructions. In fact, the specification confirms that the recited modules are software instructions that “may run on any type of computer system” EX1001, 6:65-7:2.

6:37-39. Thus, the written description of the '217 Patent describes the recited modules in the *very language* that was held dispositive in *Dyfan*—"software instructions"—confirming that the modules constitute structure. *Dyfan*, 28 F.4th at 1367-68; *see also* EX2001, ¶¶ 22-24; EX2003, ¶¶ 15-16. Like the claim language in *Dyfan* and *Zeroclick*, "*computer program modules*" refers to "conventional structures known to persons of ordinary skill in the pertinent art." *Id.*, 28 F.4th at 1367-68; *see also Zeroclick*, 891 F.3d at 1008 (holding that a person of ordinary skill in the art could reasonably discern from the claims that "program" and "user interface code" "are not used as generic terms or black box recitations of structure or abstractions, but rather as specific references to conventional graphical user interface programs or code, existing in the prior art at the time of the inventions"); EX2001, ¶¶ 22-24; EX2003, ¶¶ 15-28.

2. The Claims Continue by Reciting Specific Modules, Confirming That "Computer Program Modules" Constitutes Structure.

After reciting "*a computer-readable storage medium* [a structure that holds content and is readable by a computer] *storing computer program modules* [structures made up of groups of software instructions] *configured to execute on the computer processor* [more details on the previous structure, reflecting that the groups of software instructions for a computer are engineered to execute on the computer processor (which is another structure)]," Claim 1 then goes on to recite a number of these specific computer program module structures, confirming that these are software instructions that constitute structure.

Claim 1 recites "*a **monitoring module** configured to track actions by a plurality of users associated with an application for managing electronic content.*" The claim

language explains what the structure is and what it does – it tracks actions by the users of an application for electronic content. Monitoring user actions is a conventional and necessary feature of systems that allow users to send electronic content. EX2001, ¶ 25; EX2003, ¶¶ 17-19. Indeed, without monitoring user actions the system would not know when a user wanted to send or review content. *Id.* Existing or off the shelf systems at the time of the invention could provide this monitoring. *Id.* The patent notes that “[t]he electronic mail system 250 has a monitoring module 252, which generally monitors and registers user actions and those of users associated or corresponding with a particular user.” EX1001, 6:39-42. The term “*monitoring module*” in the ‘217 Patent is not used as a generic term or black box recitation of structure or abstractions, but rather as a specific reference to known and existing techniques for monitoring user actions at the time of the invention. EX2001, ¶¶ 25-26; EX2003, ¶¶ 15-19. *See Dyfan*, 28 F.4th at 1367-68; *Zeroclick*, 891 F.3d at 1008.

The claims also recite a “*first measurement module*” that is “*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.*” This, too, recites structure. EX2001, ¶¶ 27, 31 & 33-35, EX2003, ¶¶ 15-16 & 20-21, 23-25. The claim does not simply say that a black box module mysteriously determines a first relevance measure. *Id.* Rather, the claim explains how that structure is arranged and exactly what it does. *Id.* The structure is coupled to the monitoring structure so that that it has access to the actions of the various users on the piece of electronic content. *Id.* But then further, the claim recites that the module is structured to determine a first

measure of relevance based at least in part on “*one or more actions of the user on the piece of electronic content.*” These are structural limitations required for the first relevance measurement module. *Id.* The presence or absence of these structures can be – must be – determined from the underlying technical documents, not just from the output of the system. *Id.*

The written description provides supporting information as to the first relevance measurement module.

As will be apparent from the description herein, users' actions may indicate valuable information about both content and entities in the system. For example, if a user receives an electronic mail object, saves the electronic mail in a custom folder and subsequently forwards it to three other users, then the electronic mail is likely to be much more relevant to those users than if the sending user had just deleted the electronic mail as soon as he or she had finished reading it.

EX1001, 6:4-11. The '217 Patent explains the “Individual Relevance Component: an IRC value is a relevance score for a piece of content respective to a given individual user, and is based on the actions of that user. [symbol: $xIRC_r$ for recipient r 's actions on electronic mail object x from senders $\{s\}$].” EX1001, 25:45-49. Similarly, the '217 Patent describes the global relevance value for a piece of content, the cognate relevance value for a piece of content, and the local importance value for a piece of content, among others. EX1001, 25:55-26:52. The '217 Patent explains that “[t]he relevance determination module **256** assesses user action data provided by the monitoring module **252** and calculates relevance scores for objects accessible to the user.” *Id.* 6:45-48.

Similarly, the claims recite that the “*second relevance measurement module*” is coupled to the monitoring module and configured to determine a second measure of

relevance for the piece of electronic content based at least in part on one or more measures derived from, a local importance of the sender to the user, a global importance of the sender within the organization, a content relevance of the piece of electronic content, and one or more actions on the piece of electronic content by the one other recipient of the piece of electronic content that is cognate to the user. These limitations all define the structure of the second relevance measurement module. EX2001, ¶¶ 27, 32-35; EX2003, ¶¶ 15-16 & 22-25. The written description provides disclosure supporting and informing these structural limitations for each aspect of the second measure of relevance:

- Local Importance: “Local Importance: a local importance value is the importance value for an entity (e.g., a sender, a job code) to a given user which is shown to that user through the interface. It is a function of the user’s own IIC for that sender, together with global and cognate importance values for the sender. [symbol: I_{sr}^1 for local importance of sender s to recipient r].” EX1001, 26:24-30.
- Global Importance: “Global Importance: a global importance value is an importance score for an entity respective to the entire system, and is a weighted average of all IIC values for that entity. [symbol: I_s^g for sender-entity s].” EX1001, 25:55-59.
- Content Relevance: “Keywords of high relevance in a community of users may be automatically discovered based on statistical techniques. The frequencies of words in a set of mail content may be compared to regular (average) values, to discover the words that are used more than average in the volume of electronic mail. The more frequent words may then be correlated to content relevance, to highlight more frequent words (compared to average values) that are used in the more relevant content.” EX1001, 41:17-25.
- Actions by Cognate Recipients:
 - “Cognate Group: for each user, over time, the system identifies a “cognate group” of the n other users regarded as most similar. This group is defined by similar past user actions and assessments, and/or a direct input by a user. It is noted that it is not assumed that the

population of recipients falls into separate and mutually exclusive cognate groups. Rather, each recipient may have their own cognate group of those the system regards as most similar to that recipient. Thus, in some cases, for example, user A may be in user B's cognate group (because A is in the n users most similar to B), but at the same time, B may not be in A's cognate group (because there are n other users more similar to A than B is)." EX1001, 25:65-26:10.

- "Cognate Relevance Value: a cognate relevance value is a relevance score for a piece of content respective to a given recipient based on a weighted average of the IRC's of the n users considered to be the cognate group for that recipient. [symbol: R_r^c for the relevance input from the cognate group c of recipient r, on electronic mail object x sent by senders {s} to recipient r]." EX1001, 26:11-17.

The claim recites that the "*relevance analysis module*" is "*configured to determine the relevance score of the piece of electronic content,*" "*determined based at least in part on the first determined measure of relevance and on the second determined measure of relevance.*" Again, these are structural limitations required for the relevance analysis module. EX2001, ¶¶ 27-30; EX2003, ¶¶ 26-28. In explaining the "relevance analysis engine," the written description identifies and defines all the structural components that can inform the relevance score. *See id.*; EX1001, 25:37-26:52 (portions quoted above). The written description then addresses Figure 21, "an example chronological scenario for the relevance analysis engine":

FIG. 21 shows at a high level how the terms described above relate to each other and the process by which they are calculated in the functioning of relevance analysis engine. Below is provided a more in-depth description of relevance techniques and computational implementation. It is noted that the scenario in FIG. 21 depicts a final relevance mechanism (described below), which includes cognate relevance.

EX1001, 26:53-61.

3. Petitioner Has Not Carried Its Burden To Overcome The Presumption Against Means-Plus-Function Treatment.

Overcoming the presumption that Section 112(6) does not apply would be a daunting task on this intrinsic record, and it is a challenge Petitioner does not even attempt. In order to overcome the presumption that Section 112(6) does not apply, Petitioner must show by a preponderance of the evidence that a person of skill in the art would not have understood the “computer program modules”—including the recited modules at issue here – to connote structure in light of the claim as whole. *E.g., Dyfan*, 28 F.4th at 1365 (internal citation omitted). Petitioner's expert, Dr. Houh, does not address this issue. Instead, Dr. Houh opines that the term “module” does not convey to one of skill “a specific structure” to operate as required. Ex. 1004, ¶ 109 (emphasis added). But the rule is not that claims directed to software instructions are given means plus function treatment unless the claims recite specific lines of code. Rather, the question is whether those of skill would recognize that the claims are directed to structure, and here it is beyond questions that they would. In fact, Dr. Houh gives the game away when he concedes that “[t]he term ‘module’ can vaguely refer to any code or component to perform a given function.” Ex. 1004 at ¶ 110 (emphasis added). Code is structure.

4. Petitioner's Cases Are Inapposite.

The cases that Petitioner relies on are distinguishable. In *Williamson v. Citrix Online LLC*, 792 F.3d 1339, 1344 (Fed. Cir. 2015), the claim was directed to a system for conducting distributed learning among computers in a network, including (a) a

presenter's computer system, (b) audience member's computer system, (c) a distributed learning server remote from (a) and (b); and (d) **a distributed learning control module** for receiving communications transmitted between the presenter and the audience member computer systems and for relaying the communications to an intended receiving computer system and for coordinating the operation of the streaming data module. In *Williamson*, unlike the present case, nothing in the claim language "impart[ed] structure" to the distributed learning control module. *Id.* at 1351. Similarly, in *Grecia v. Samsung Electronics America, Inc.*, 780 Fed. App's 912, 915 (Fed. Cir. 2019), the term at issue was "customization module," with no indication in the intrinsic evidence as to what it was or how it was tied to any structure; the limitation was "purely functional and fails to describe any structure." In *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008), and *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303, 1313-15 (Fed. Cir. 2011), unlike the present case, the limitations at issue were written in means-plus-function form and Section 112(6) applied; the only issue was whether the claims were indefinite.

For all these reasons, these terms should be given their plain and ordinary meaning and not treated as means-plus-function limitation under Section 112(6).

C. Construction of "a recipient"

Applying the *Phillips* standard, the proper construction of "a recipient" is a specific type of user – i.e., a user that has **received** a piece of electronic content **sent** from a **sender**. EX2001, ¶¶ 95 & 124. It is apparent from the Petition that Petitioner and its expert are construing "a recipient" to be any "user" that "access[ed]," "interact[ed]" with, or "used,"

a piece of electronic content. EX1004, ¶¶ 245, 247, 505 (citing EX1006, [0022], EX1008, [0031]); *see also* Petition, at 33 & 65-66. The claims and specification, however, make clear that – in conformity with plain and ordinary language – “*a recipient*” is not just a “*user*” that interacted with, used, or looked at content, but, instead, must be a user that actually **received** the piece of electronic content **sent** from a **sender**. *E.g.*, EX1001, Claim 1 (system is for “*determining a relevance score of a piece of electronic content sent from a sender,*” and system “*identif[ies] ... a recipient*” for the purpose of tracking “*actions on the piece of electronic of the at least one other of the plurality of users that is a recipient of the piece of electronic content*” (emphasis added)); *id.* 2:26-28 (“FIG. 4 shows different techniques as to how an electronic mail object may be **sent to** external **recipients**” (emphasis added)); *id.* 1:35-37 (“As an email is **received** and **sent** over time, the **recipient’s** ‘inbox’ and ‘sent folder’ becomes a vast store of information.” (emphasis added)). *id.* 5:1-2 (same); *id.* at 5:3-5 (“a user ... **sends** ... **to recipients**” (emphasis added)); *id.* 5:12-14 (same); *id.* 5:21-23 (same); *id.* Fig. 22 (“**sender s to recipient r**” (emphasis added)); *id.* 26:23-24 (same); *id.* 9:44-45 (“the **sender** indicates the electronic mail requires action by the **recipient**” (emphasis added)); *id.* at 12:35-37 (“if a user **sends** an electronic mail object to a group of users, and most of the **recipients** reply...” (emphasis added)); *id.* at 12:52-54 (“if a user **sends** a submessage to another user, but the **recipient** does not read the submessage” (emphasis added)); *id.* 29:64-66 (“This number may be the same for all **recipients** of all electronic mails from that **sender** ...” (emphasis added)); *id.* at 30:54-55 (“If **recipient** i receives electronic mail from **sender** s” (emphasis added)); *see also* EX2001, ¶¶ 95 & 124. Petitioner’s attempt to read “*a recipient*” to mean any user

that views any electronic content (e.g., a webpage on the Internet) is improper. EX2001, ¶¶ 95 & 124.

Construing “*a recipient*” to require that the user actually received a piece of electronic content sent by a sender conforms with the plain and ordinary definition of “*a recipient*.” EX2001, ¶¶ 95 & 124. In particular, a POSA would understand that, in the context of systems and methods for electronic messaging, “*a recipient*” is a user that actually receives content sent by a sender. *Id.* A POSA would not understand a user that simply locates and views electronic content, e.g., on the Internet, or in a database, to be “*a recipient*” of the content, because the content was never **received** by the user; the content was only **accessed** by the user. *Id.* If nothing is sent, there is nothing for a receiver to receive. *Id.*

Just as the specification and the plain and ordinary meaning support this construction of “a recipient,” the claims themselves also support this construction. In particular, every claim of the ‘217 Patent relates to “*determining a relevance score of a piece of electronic content sent from a sender.*” Therefore, “*a recipient*” of such a piece of electronic content is necessarily a user that has received the content “*sent from a sender*.”

V. THE BOARD SHOULD NOT INSTITUTE ON ANY OF GROUNDS 1-5

A. Legal Standards

1. Petitioner's Burden

The law provides that “[t]he Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition ... and any response ... shows that there is a reasonable likelihood that the petitioner would

prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). “Subsection (a) identifies a threshold requirement that must be met before the Director is even authorized to institute review” *BioDelivery Scis. Int’l, Inc. v. Aquestive Therapeutics, Inc.*, 935 F.3d 1362, 1365 (Fed. Cir. 2019).

“In an inter partes review, the burden of persuasion is on the petitioner to prove ‘unpatentability by a preponderance of the evidence,’ and that burden never shifts to the patentee.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1375 (Fed. Cir. 2016) (citing 35 U.S.C. § 316(e); *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015)).

2. Obviousness

To prevail on its obviousness challenges, Petitioner must prove by a preponderance of the evidence that “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” 35 U.S.C. § 316(e) & 35 U.S.C. § 103.

“[E]ven when all claim limitations are found in prior art references, the fact-finder must not only determine what the prior art teaches, but whether prior art teaches away from the claimed invention and whether there is a motivation to combine teachings from separate references.” *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 655 F.3d 1364, 1374–75 (Fed. Cir. 2011) (citations omitted). Accordingly, a party seeking to establish the obviousness of a patent must do more than simply say that the elements of the patent were in the prior art. *See KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007). There must

be some reason to combine the prior art in the way embodied by the patent; some motivation or incentive is needed. *Id.* “A reason for combining disparate prior art references is a critical component of an obviousness analysis; ‘this analysis should be made explicit.’” *InTouch Technologies, Inc. v. VGO Communications, Inc.*, 751 F.3d 1327, 1351 (Fed. Cir. 2014) (quoting *KSR*, 550 U.S. at 418). Put another way, “there ... must be evidence that ‘a skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed.’” *Ecolochem, Inc. v. S. California Edison Co.*, 227 F.3d 1361, 1375 (Fed. Cir. 2000) (internal citation omitted).

“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006).

B. The Board Should Reject Grounds 1-3 Because Dumais Is Not Prior Art to the ‘217 Patent.

The Dumais reference is the only reference or primary reference for Grounds 1-3 advanced by Petitioner. The Board should decline to institute based on Grounds 1-3 because the Dumais reference is not prior art to the ‘217 Patent. As set forth in the sworn Declaration of Justin Marston, the inventors of the ‘217 Patent conceived of their invention at least as early as June 7, 2005, and, therefore, the ‘217 Patent has a priority date that is earlier than the Dumais priority date. *See generally* EX2003 (Declaration of Justin Marston, Mar. 12, 2025); *see also* EX2014.

The priority date of Dumais is June 29, 2005. EX1006. The conception of the '217 Patent predates this. *See* EX2003, EX2004, EX2008, EX2014. In particular, as set forth in the declaration of Justin Marston, Exhibit Nos. 2004 and 2008 are draft documents prepared by Justin Marston on September 2, 2004, and June 7, 2005, respectively (hereinafter, collectively, the "Conception Documents"). EX2004, EX2006. The Conception Documents disclose each limitation of the Challenged Claims, as set forth in the chart that is Exhibit 2014. Additional Exhibits cited in the declaration of Justin Marston show continued work on the mathematics for the relevance model between September 2, 2004, and the filing of the provisional patent application on January 13, 2006. EX2005, EX2006, EX2007, EX2008, EX2009, EX2010, EX2011, EX2012, EX2013. Accordingly, the inventors of the '217 Patent conceived of their invention prior to June 7, 2005, and were diligent in pursuing their invention from prior to June 7, 2005, until they filed their provisional patent application.

Accordingly, the Board should decline to institute on Grounds 1-3 because Dumais is not prior art to the '217 Patent.

C. The Board Should Reject Grounds 1-3 Because Dumais, Alone or in Combination With Petitioner's Other References, Does Not Render Obvious Any Claim of the '217 Patent.

Even if the Dumais reference were prior art to the '217 Patent, Dumais still would not provide a basis for institution, because Petitioner has failed to establish a reasonable likelihood that it will prevail in showing that Dumais, alone or in combination with Petitioner's other cited references, renders obvious any claim of the '217 Patent. *See* EX2001, ¶¶ 86-104.

1. The Dumais Reference

Dumais, which is entitled “Sensing, Storing, Indexing, and Retrieving Data Leveraging Measures of User Activity, Attention, and Interest” (EX1006), focuses on the retrieval of data *in response to a search*, not on the receipt of emails, messages, or other electronic content. *See, e.g.*, EX1006, at Abstract (discussing “items returned in a search”). Unlike the ‘217 Patent, which focuses on determining a relevance score of a piece of content sent from a sender to a recipient, the focus of Dumais is query modification, i.e., modifying the list of results returned in response to a search query. *E.g.*, EX2001, ¶ 87.

Dumais sets out to solve problems in prior art systems for searching/retrieval. One problem was that prior search/retrieval systems were “somewhat content centric,” such that when data is “retrieved” in response to a search, the data retrieved is “based on the actual content of the data stored.” EX1006, ¶ 1. For example, if a user searched for “John,” “the retrieved list” would include all data items “associated with the term ‘John.’” EX1006, ¶ 1. The resulting “list” of retrieved data items may be a large number. EX1006, ¶ 1.

Dumais solves this problem by assigning “activity weight” to data items (or parts of data items or groups of data items), which is employed to retrieve “a smaller or more manageable set of items” in response to a user’s search. EX1006, [0008]. Dumais aims to “differentiate personalized searches from generalized searches and to facilitate rich data processing according to determined activity data.” *Id.*, [0043]. “For example, instead of merely searching a set of data items for a content-centric keyword, searching for information can be augmented via activity enhanced clues to more efficiently retrieve desired data of interest.” EX1006, [0008].

Another problem in prior art systems identified in Dumais is that “systems usually return complete documents,” which is “one of the primary reasons behind the feeling of ‘information overload’” EX1006, [0005]. This is particularly true when the documents searched for include “whole books.” EX1006, [0005]. Dumais solves this problem by ranking results from a user query by giving “more weight to terms that appear in ... sections of a document that have been edited or the user has spent lots of time reading.” EX1006, [0025]; EX1006, [0033] (“a ranking score can be utilized for data retrieval, to yield more weight to terms or objects that appear in sections of a data item that a user has attended to or has interacted with.”); EX1006, Claim 17. Dumais refers to these “sections” of objects as “document regions.” EX1006, [0025].

In Dumais, “query modification” encompasses both changes to query terms and alterations in the algorithm used to match queries with documents, ensuring more personalized search results. EX1006, [0040]. Query modification ensures that a subset of items is delivered to a user in a specific order or ranking. E.g., EX1006, [Abstract] (“to influence the rank of items returned in a search”); EX1006, [0033] (“a ranking score can be utilized for data retrieval”); EX1006, [0041] (“modification of [search] results usually includes some form of re-ranking”); EX1006, [0025] (“a score can be assigned based on the similarity of a user’s query to the content of the document”).

Ranking in Dumais is a two-step process. First, after query modification and submissions to a search engine and results will be returned from the search engine; and second, the returned results are modified through “query modification.” EX1006, [0040];

EX2001, ¶ 70. The “query modification” in Dumais is focused on a single user, including a single user's interest, via tags. EX1006, [0040]; EX2001, ¶ 70.

Dumais discloses that data items that can be searched and retrieved include “documents, files, email messages, calendar appointments, web pages, sub-sections within the data items or cross-item abstractions.” E.g., EX1006, [0031]. Although “email messages” are among the types of data items that can be searched for and retrieved in Dumais (similar to the ‘217 Patent's description of searching in prior art systems (EX1001, 1:40-43)), Dumais does not teach or disclose identifying other recipients that received the same message. *See generally* EX1006.

The inventions in the ‘217 Patent are very different from the invention in Dumais, in many ways. EX2001, ¶¶ 86-92.

2. Grounds 1-3: Dumais Does Not Teach, Disclose, or Render Obvious Limitation Nos. 1[f] / 6[d] / 7[b]: “*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.*”

Each of the independent claims of the ‘217 Patent requires a second relevance measurement configured to “***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, at Claims 1, 6 & 7 (emphasis added). In other words, the “at least one other of the plurality of users” (i.e., the second user) being “*identif[ie]d*” in the claims must be both (1) “a recipient” of the same piece of electronic content that the first user received and also (2) “cognate to the [first] user.” *Id.* This “*identify...*” limitation is important to the claims because other limitations require it; for example, it would not be possible to assess “one or

more actions ... of ... a recipient” if the method/system does not first “*identify*” that other “*recipient*.” EX1001, Claims.

In Grounds 1-3, Petitioner relies exclusively upon Dumais to supply this limitation. E.g., Petition, at 1 (“Dumais (EX1006) discloses every limitation of the independent claims.”). Dumais, however, does not teach or disclose this limitation, including both because (1) Dumais does not teach or disclose the “*identify at least one of the other plurality of users that is a recipient*” limitation; and (2) Dumais does not teach or disclose the “*identify at least one of the other plurality of users ... that is cognate to the user*” limitation. EX2001, ¶¶ 93-102. As a result, Dumais also does not disclose “*identify[ing]*” a user that is both “*a recipient*” and also “*cognate to the user*.” As such, given this gap in the Petitioner’s evidence, Petitioner fails to make a prima facie case of obviousness based on Dumais. *Id.*⁵

a) Dumais Does Not Teach, Disclose, or Render Obvious the “*identify ... a recipient*” limitation.

Dumais does not disclose “*identify[ing]*” “*a recipient*” – i.e., a person to whom the “*sender*” has “*sent*” a piece of electronic content. *See supra* at 20-22 (discussing proper construction of “*a recipient*”); EX2001, ¶¶ 95 & 124. Although Dumais discloses that emails are among the data items that can be ranked, Dumais never “*identif[ies]*” another “*recipient*” of the data items – i.e., another user to which the “*sender*” has also “*sent*” the piece of electronic content. *See generally* EX1004; EX2001, ¶¶ 93-97. Therefore,

⁵ Patent Owner reserves the right to raise additional issues with Petitioner’s analysis regarding Dumais in Grounds 1-3, including the dependent claims, in the future.

Petitioner has not met its burden to establish a likelihood of prevailing in asserting obviousness with respect to Grounds 1-3.

Petitioner cites three passages in Dumais in support of its argument that Dumais discloses this limitation, but none of Petitioner's citations discloses identifying "*at least one other of the plurality of users that is a recipient of the piece of electronic content.*" **First**, Petitioner argues that "Dumais explains that '[m]onitoring can...determine when the data items 130 are interacted with by **users**' (plural)." Petition, at 33 (citing EX1006, [0022]); *see also* EX1004, ¶247 ("A POSA would have understood that a document with 'past interaction[s]' would indicate that another user '*is a recipient of the piece of electronic content.*'"). It is apparent that Petitioner and its expert are defining "*a recipient*" to be any user that "interact[ed]" with, or "used," a data item. EX1004, ¶¶ 245, 247. That definition, however, is incorrect. *See supra* at 20-22; EX2001, ¶¶ 93-95. Every claim of the '217 Patent requires the identification of another "*recipient of the piece of electronic content.*" EX1001, Claims. The limitation requires more than "*identify[ing]*" another "*user*"; it is discussing identifying a particular type of "*user*," one who is "*a recipient of the piece of electronic content*" (and also is "*cognate to the user*"). EX2001, ¶¶ 93-98. A POSA would understand that, in the '217 Patent, "*a recipient*" is another user that **received** a piece of **sent** electronic content from a **sender**. *E.g.*, EX1001, 2:26-28 ("an electronic mail object may be **sent to** external **recipients**"); *see also supra* at 20-22; EX2001, ¶¶ 95 & 124. Thus, a POSA would understand that, in the '217 Patent, "*a recipient*" is a "*user*" that received a sent piece of electronic content. *Id.* By conflating "*users*" with "*recipients*," Petitioner ignores the requirement that the user must be "*a recipient of the piece of*

electronic content.” EX2001, ¶¶ 94-97. Dumais' disclosure of monitoring “users” interactions does not disclose “*identify[ing] at least one other of the plurality of users that is a recipient of the piece of electronic content.*”

Second, Petitioner argues that “Dumais discloses a ‘global database 490 of user statistics’ which ‘can be associated with user activity or interaction data,’” and “[a] POSA would have understood that ‘global database 490’ includes ‘user activity or interaction data’ for multiple users on a single data item.” *Id.* at 33 (citing EX1006, [0040] & EX1004, ¶245). Once again, however, Petitioner improperly conflates the concepts of “user” and “recipient” (a specific type of “user”), ignoring that “a recipient” is a “user” who actually received the “*piece of electronic content sent from a sender.*” EX1001, at Claims; *see also* EX2001, ¶¶ 94-95. Dumais' disclosure of monitoring “users” interactions does not disclose “*identify[ing] at least one other of the plurality of users that is a recipient of the piece of electronic content.*” *Id.*

Finally, Petitioner argues that “because Dumais includes ‘collaborative filtering techniques’ (§III) and the ‘[s]imilarity computations [for collaborative filtering] can be based on...**usage of items**,’ a POSA would have understood that the ‘group of users’ identified by Dumais are “*a recipient of the piece of electronic content.*” *Id.* at 33. Once again, Petitioner improperly focuses on “users” and “usage of items,” instead of focusing on whether the user actually received the piece of electronic content. EX2001, ¶¶ 94-95. A person who merely “uses” (e.g., looks at, or views) items in a search result, however, is distinct from a user that receives the same piece of sent electronic content. *Id.* ¶¶ 93-97. Dumais' disclosure of monitoring “users” interactions does not disclose “*identify[ing] at*

least one other of the plurality of users that is a recipient of the piece of electronic content.”
Id.

Petitioner's description of the inventive claims throughout the Petition is telling: Petitioner describes the “*identify...*” limitation as requiring only the “identif[ication] [of] a second user that is ‘cognate’ to the first user.” Petition, at 1. However, as set forth above, the “*user*” being “*identif[ied]*” in this limitation is a “*user*” that is not only “*cognate*” to the first user, but also must be “*a recipient*” of the same piece of electronic content that the first user received. Yet, Petitioner simply chooses to ignore this “*recipient*” requirement. *See, e.g., id.* at 10 (describing the “*identify...*” limitation as requiring only the identification of a cognate user, not also “*a recipient*”); *id.* at 11 (same); *id.* at 13 (same).

Petitioner's expert's declaration is telling, as well. As an initial matter, Dr. Houh's declaration suffers from the same problem as the Petition: he conflates “*users*” with “*recipients*,” interpreting “*a recipient*” to be any “*user*” that “use[s]” a data item. *See* EX1004, ¶ 245 (opining that, “because the ‘[s]imilarity computations can be based on the content and/or **usage of items**’ a POSA would have understood that at least one user “*is a recipient of the piece of electronic content*” because for collaborative filtering to function the users must have similar usage of items.” (underlined emphasis added)). As set forth above, however, construing “*a recipient*” to be any “*user*” who “**uses**” a piece of electronic content is a construction that is not supported by the claims, specification, or plain and ordinary meaning of “*a recipient*.” *Supra* at 20-22 (discussing proper construction of “*a recipient*”); EX2001, ¶¶ 95 & 124.

Dr. Houh's declaration suffers from an additional flaw: he does not discuss whether Dumais teaches or discloses the requirement to "*identify ... a recipient*." Instead, Dr. Houh addresses the "*identify ... a cognate user*" requirement (EX1004, ¶¶ 241-244, 246, 248), and then separately addresses the limitation of "*a recipient*" (EX1004, ¶¶ 245, 247). Dr. Houh never addresses whether Dumais teaches or discloses the specific requirement to "*identify ... a recipient*." EX1004. The "*identify*" piece of the limitation is important to the claims because other limitations require it; for example, it would not be possible to assess "*one or more actions ... of ... a recipient*" if the method/system does not first "*identify*" that other "*recipient*." EX1001, Claims. Dumais does not teach or disclose "*identify[ing] ... a recipient*." EX2001, ¶¶ 93-97.

Because Dumais does not teach or disclose the "*identify ... a recipient*" limitation, and because Petitioner does not rely upon any other reference to supply this missing limitation, the Board should reject Grounds 1-3.

b) Dumais Does Not Teach, Disclose, or Render Obvious the "*identify at least one other of the plurality of the users ... that is cognate to the user*" limitation.

The "*identify*" limitation requires not only that the second "*user*" be a "*recipient*," but also that the "*user*" be "*cognate to the [first] user*." EX2001, ¶ 98. Dumais also does not teach or disclose "*identify[ing]*" a second user that is "*cognate*" to the first user, as required by every claim of the '217 Patent. *Id.* ¶¶ 98-102.

Dumais focuses only on the target user (the user doing the searching), not on "*identify[ing]*" "*cognate*" users. EX2001, ¶ 88. In Dumais, a query is modified based on the target user's interests, via tags. *Id.* ¶ 92. Although Dumais discusses that collaborative

filtering can be used to create profiles, Dumais does not teach, disclose, or render obvious “*identify[ing] ...at least one other of the plurality of users that is cognate to the user.*” *Id.* ¶¶ 98-102. This is because cognate users in the ‘217 Patent are more restricted than the generic collaborative filtering described in Dumais. *Id.* ¶ 100.

In the ‘217 Patent, the purpose of “*identify[ing]*” other “*cognate*” users is so that the actions of those cognate users on the same piece of content can be monitored and considered in determining a relevance score for that piece of content. *E.g.*, EX1001, Claim 1 (one measure of relevance includes “*actions ... 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*”); EX2001, ¶ 101. In contrast, collaborative filtering in Dumais is used to “develop profiles” for individuals or groups. EX1006, [0052]. In Dumais, collaborative filtering is used to “predict likely or possible profiles for new users of a system.” EX1006, [0055]. This is different from the ‘217 Patent requirement to “*identify ...at least one other of the plurality of users that is cognate to the user*” as part of “*developing a relevance score.*” EX2001, ¶¶ 100-01.

Accordingly, Dumais does not disclose “*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.*” EX2001, ¶ 102. Because every claim of the ‘217 Patent requires this limitation, Dumais does not render obvious any claim of the ‘217 Patent. *Id.* Therefore, Petitioner has failed to establish a reasonable likelihood that it will prevail in showing that the challenged claims are unpatentable with respect to Grounds 1-3 based on Dumais.

3. Petitioner Does Not Assert that AAPA or Marston Disclose the Missing Limitations Discussed Above.

Petition cites two secondary references in Grounds 1-3. In Ground 2, Petitioner asserts that Dumais in view of AAPA renders the claims obvious, and in Ground 3 Petitioner asserts that Dumais in view of Marston renders the claims obvious. However, neither Petitioner nor its expert assert that AAPA or Marston disclose the “*identify ...*” or “*cognate*” limitations discussed above. Petition, at 32-34 & 43-44. Accordingly, Petitioner's prior art combinations do not render the claims obvious, and the Board should reject Grounds 1-3. EX2001, ¶¶ 103-104.

D. The Board Should Reject Grounds 4 and 5 Because the Combination of Kircher and Krug Does Not Render Obvious Any Claim of the '217 Patent.

As set forth above, every claim of the '217 Patent recites “*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.*” EX1001, Claims. As set forth below, neither Kircher nor Krug discloses this limitation. Although Kircher relates to electronic messages, Kircher does not seek to track the actions of other recipients of the same piece of electronic content and, therefore, does not teach, disclose, or render obvious this limitation. Krug does not remedy this deficiency; Krug does not relate to messages or sent pieces of electronic content at all and, therefore, does not attempt to “*identify...a recipient*” – i.e., another user that received the same piece of electronic content as the first user. Krug also does not “*identify at least one other of the plurality of users ... that is cognate to the user.*” This is because collaborative filtering in Krug is used to create profiles; it is not used for the purpose of “*identify[ing]*” other recipients of the same piece of sent content that are similar to the first

user and, in particular, it is not used for the purpose of identifying such “*cognate*” “*recipients*” for the purpose of tracking their actions on the same piece of content. Therefore, the combination of Kircher and Krug cannot render obvious this limitation, or – as a result – any claim of the ‘217 Patent.

1. The Kircher and Krug References

a) The Kircher Reference.

Kircher discloses a computer program for managing and prioritizing electronic messages. EX1007, [Abstract]. An electronic message is sent by the sender, and upon receipt, the recipient can take one of four possible actions:

- (a) Read, reply to, and save the email.
- (b) Read and save the email.
- (c) Only save the email.
- (d) Delete the email without reading it.

EX1007, [0053]. The patent classifies these actions (EX1007, [0053]) and introduces a method for ranking electronic messages based on their classification. E.g., EX1007, [0092]. This ranking is determined using fuzzy logic, which categorizes each message based on measurable attributes and user-defined parameters. E.g., EX1007, [0092].

The evaluation of each message with respect to the recipient is determined by three key factors:

- 1. Sender Importance – Assessed based on:
 - i. Whether the sender's address is in the recipient's address book.
 - ii. Whether the sender is an individual.

- iii. Whether the message is a newsletter.
 - iv. Whether the message includes a nickname, phone number, or company name found in the recipient's address book.
2. Degree of Personalization – Evaluated based on:
- v. Whether the message is addressed solely to the recipient.
 - vi. Whether it was sent to additional recipients.
 - vii. Whether the sender is an individual.
 - viii. Whether the message includes a personalized greeting matching the recipient's friendly name.
 - ix. Whether it contains a personalized signature matching the sender's friendly name.
3. Content Importance – Determined based on:
- x. The presence of spam indicators or newsletter characteristics.
 - xi. The message length exceeding a specified threshold.
 - xii. Inclusion of a personalized greeting or signature.
 - xiii. Presence of keywords that are not among predefined keywords.
 - xiv. Inclusion of a nickname, phone number, or company name from the recipient's address book.

EX1007, [0014], EX1007, [0016-0018].

In Kircher, fuzzy logic is first applied individually to evaluate the criteria of sender importance, degree of personalization, and content importance. EX1007, [0015]. It is then used to generate a single numerical value representing the overall ranking of the

message's importance based on all evaluated factors. EX1007, [0015]. Furthermore, fuzzy rules (weights) are updated whenever an actual user action differs from the expected user action determined by the email message ranking. EX1007, [0046].

As set forth in the declaration of Dr. Khan, in many ways, the Kircher reference is different from the inventions set forth in the '217 Patent. EX2001, ¶¶ 106-110.

b) Background on the Krug Reference.

The Krug reference focuses on identifying relevant objects for users on the Internet. EX1008, [0002]. Relevance is determined by calculating the Euclidean distance between object and user profiles. *Id.* [0022]. Here, objects can include documents such as HTML pages, with their properties or content serving as object profiles. *Id.* [0006].

User profiles are represented as attribute-value pairs, typically containing demographic information. *Id.* [0011]. A user profile is a model of the user or a user group that describes his or her characteristic properties, for example, in the form of socio-demographic data such as age, gender or place of residence, or his or her behavior. *Id.* [0011].

The user profile may also be structured hierarchically, wherein one aspect of the profile is represented in a refined manner by associated sub-aspects. EX1008, [0014]. A hierarchical structure of the user profile makes it possible to provide a more accurate model of the user if sufficient data is available and to use a more general description of the user properties if the data is less meaningful. *Id.* [0014].

Since the object profile describes the properties of a typical user of the object, a high level of similarity between the user profile and the object profile can be used to conclude

that the object is highly relevant for the respective user. EX1008, [0020]. For example, if an object is often used by the corresponding user or by users with similar object profiles, the user profile and the object profile are similar, and correspondingly Euclidean distance between the user profile and the object profile will be zero (minimum). *Id.* [0020].

The specific and absolute usage intensities can be used when updating the profiles to determine the influence of the interaction on the profile and/or to determine the comparison values of the objects when determining the relevant criteria. EX1008, [0034].

The intensity factor describes the usage intensity of an object by the user that describes the usage behavior of users as an elementary variable of the system. *Id.* [0068]. The patent utilizes two factors such as the intensity factor of a usage and the absolute usage intensity for an object. Here, on one hand, the intensity factor refers to the current interaction. *Id.* [0068]. On the other hand, the absolute usage intensity aggregates all interactions of a user for an object. *Id.* [0068].

The intensity factor for an interaction is determined by analyzing the user's interaction, taking into account the actual active time for interaction with the object and/or the user's rating of the object. EX1008, [0069]. To assess interaction intensity, the system records the strength of a user's engagement with an object. The user's computer tracks the top ten objects with the highest interaction intensity, storing their corresponding intensity values along with object identifiers (e.g., URLs). *Id.* [0102].

A user profile consists of both a static and a dynamic component. EX1008, [0056]. These profiles serve as the foundation for group and object profiles. *Id.* [0057]. The static portion is established during registration and the creation of virtual identities. The dynamic

portion shares the same aspects as the static part but evolves over time. Initially, the values of the dynamic profile are neutral, reflecting equal influence. *Id.* [0059]. However, each interaction, such as document usage, dynamically impacts the profile, either strengthening or weakening specific aspects of the static portion. *Id.* [0059].

An average user profile for a given object is derived from the profiles of users known to engage with it. EX1008, [0081]. The object profile follows the same structure as user profiles, representing a typical user based on their profile attributes, as well as the frequency and intensity of usage. *Id.* [0081].

As set forth in the declaration of Dr. Khan, in many ways, the Krug reference is different from the inventions set forth in the '217 Patent. EX2001, ¶¶ 111-14. Also as set forth in the declaration of Dr. Khan, the Krug reference is also very different from the Kircher reference. EX2001, ¶¶ 115-19.

2. Krug Does Not Teach, Disclose, or Render Obvious the “*identify...*” Limitation and, Therefore, the Combination of Kircher and Krug Does Not Render Obvious Any Claim.

Every claim of the '217 Patent requires “*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.*” EX1001, Claims. Petitioner relies exclusively upon the Krug reference to supply the limitation of “*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.*” Petition, at 65-67; EX1004, ¶¶ 500-511. The Krug reference, however, does not disclose or render obvious

this limitation. EX2001, ¶¶ 123-29. Therefore, Petitioner's combination of Kircher and Krug does not render obvious any claim of the '217 Patent. *Id.* ¶¶ 120-30.⁶

As set forth above, the invention in Krug "relates to a method and a device for determining at least one relevant object from a plurality of objects **for search query.**" EX1008, at Abstract (emphasis added). The invention in Krug makes it possible to find an object in response to search query from a plurality of objects on the Internet, such as "electronic catalogs of mail order companies." EX1008, [0010]. In contrast, the '217 Patent determines a relevancy score for a piece of electronic content in an inter-person **communications** system. The '217 Patent's focus on inter-person communications is a central feature, as demonstrated by the claims, which include that the electronic content is "**sent from a sender,**" that at least one other "**recipient**" of the piece of electronic content must be identified, and determining the "*importance of the **sender.***"

Because Krug is focused on search queries rather than inter-person communications systems, Krug does not disclose the limitation of "*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.*" EX2001, ¶¶ 123-24. Indeed, in Krug, there is no other "*recipient*" that received the same piece of electronic content as the user, because Krug does not focus on sent pieces of electronic content. *Id.* ¶ 123.

Petitioner argues that Krug discloses "*identify[ing] at least one other of the plurality of users **that is a recipient** of the piece of electronic content*" because Krug discloses that

⁶ Patent Owner reserves the right to raise additional issues with Petitioner's analysis regarding Kircher and Krug in Grounds 4-5, including the dependent claims, in the future.

“[g]roups of users can be specified (for example, all women) or determined automatically (for example, **all users who access a specific object**).” *Id.* at 65-66 (quoting EX1008, [0027], [0031]); EX1004, ¶¶ 500-511. In other words, Petitioner argues that determining a group of users based on “all users who access a specific object” is the same as “*identify[ing]*” a user “*that is a recipient of the piece of electronic content.*” In doing so, Petitioner improperly conflates “receiving” “sent” content with “access[ing]” content. *See supra* at 20-22 (discussing proper construction of “*a recipient*”); EX2001, ¶¶ 95 & 124. The ‘217 Patent makes clear that “*a recipient*” is someone who receives the same piece of sent electronic content that the user received. *Id.* In contrast, Krug does not have “*senders*,” “*sent*” content, or “*recipients*” and, therefore, Krug does not disclose this “*identify ... a recipient*” limitation. EX2001, ¶¶ 123-24.

Krug also does not disclose “*identify[ing] at least one other of the plurality of users ... that is cognate to the user.*” *Id.* ¶¶ 125-29.

Dr. Houh asserts that this limitation is disclosed by Krug because Krug discloses “group profiles.” EX1004, ¶¶ 505-509. However, “group profiles” in Krug are not the same as “*identify[ing] at least one other of the plurality of users ... that is cognate to the user*” in the ‘217 Patent. EX2001, ¶¶ 127. In Krug, a “group profile” is “an average user profile of the group.” EX1008, [0056]. A group could be “all women,” or “auto mechanics.” EX1008, [0031]. A user can be automatically assigned to a group “based on the presence of certain properties of the user” (e.g., if a user’s profile indicates the user is a woman). EX1008, [0031]. Or, a user can assign himself to a group. EX1008, [0031]. For example, an individual user in Krug can “select[] a group profile” (e.g., for auto mechanics) when

running a search query (e.g., related to automobiles). EX1008, [0031]. By selecting the auto mechanics “group profile” for searching relating to automobiles (instead of the individual’s “user profile”), the search results may include “objects with a more pronounced technical aspect.” EX1008, [0031].

“Group profiles” in Krug are not the same as “cognate groups” in the ‘217 Patent. EX2001, ¶ 127. For example, you cannot track the actions of a “profile”/“user” in Krug, but you can track the actions of a second, “*cognate*” “*recipient*” in the ‘217 Patent. *Id.* In sum, creating a “group profile” in Krug is not the same as “*identify[ing]*” “*at least one other of the plurality of users... that is cognate to the user.*” EX2001, ¶ 127.

Dr. Houh also opines that “typical user profile[s]” in Krug are the same as “*cognate*” “*users*” in the ‘217 Patent. EX1004, ¶ 589. This is incorrect. EX2001, ¶ 128. Krug discusses that an “object profile” for a document on the Internet can be determined by “taking into account ... typical user profiles” – i.e., the profiles of “users who have accessed the object.” EX1008, [0038], [0039]. Considering “typical user profile[s]” when creating an “object profile” in Krug, however, is not the same as “*identify[ing]*” “*cognate*” users in the ‘217 Patent. EX2001, ¶ 128. In the ‘217 Patent, the purpose of “*identify[ing]*” a second “*user*” who is “*cognate*,” or similar to, the first user is that the second user’s actions can then be used to determine a “relevance score” for a piece of content for the first user. *Id.* Krug never discusses “*identify[ing]*” a second user that is “*cognate*” to the first user to help determine a “relevance score” of a piece of electronic content for the first user. *Id.*

For all of these reasons, Krug does not disclose “*identify[ing]*” “*at least one other of the plurality of users... that is cognate to the user.*” EX2001, ¶¶ 125-28.

For each of its combinations in Grounds 4-5, Petitioner relies exclusively on Krug to supply this “*identify ...*” limitation. Petition, at 65-67. Krug, however, does not disclose this limitation. EX2001, ¶¶ 125-28. Every challenged claim requires this limitation. Therefore, Petitioner has not met its burden to show that the combination of Kircher and Krug renders obvious any claim of the ‘217 Patent.

Because Petitioner relies upon Krug to supply this limitation in its obviousness combination, but Krug does not teach or disclose this limitation, even if a POSA were to combine the references – which, as set forth below, a POSA would not – the combination would still not render obvious any claim of the ‘217 Patent.

3. A POSA Would Not Be Motivated to Combine Kircher and Krug.

As Petitioner acknowledges, neither Kircher nor Krug discloses every limitation of Claims 1, 6, and 7. Indeed, even setting aside the missing “*identify...*” limitation, Kircher does not teach or disclose several additional limitations in the ‘217 Patent claims, including (1) “*track[ing] actions by a plurality of users associated with an application for managing electronic content*” (EX2001, ¶ 133); (2) “*determining 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*” (*id.* ¶ 134); and (3) “*determining the relevance score ... based at least in part on the first determined measure of relevance ...*”(*id.* ¶ 134). EX1001, at Claims 1, 6, 7. And, Krug – in addition to not disclosing the “*identify...*” limitation – does not teach or disclose additional limitations in the ‘217 Patent claims, including “*determining a relevance score of a piece of electronic content sent from a sender to a*

user ...” EX1001, at preamble to Claims 1, 6, and 7; *id.* at Claims 1, 6, and 7 (final limitation of each claim). EX2001, ¶¶ 136-38.

Because so many limitations are missing from both prior art references, Petitioner's combination must necessarily pull some limitations from Kircher and other limitations from Krug. Petitioner's combination, however, fails to articulate how a skilled artisan would so combine the references. Dr. Houh argues that a POSA would have been motivated to take the parts of Kircher that disclose some limitations of the '217 Patent and combine them with the parts of Krug that disclose other limitations of the '217 Patent and that doing so would render obvious the claims of the '217 Patent. The only basis for doing so, however, would be hindsight reasoning, using the claims as a roadmap. There are numerous problems with Petitioner's alleged obviousness combination of Kircher and Krug.

First, as set forth above, neither Kircher nor Krug discloses the “*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*” limitation. EX2001, ¶ 140. Therefore, no combination of the references actually renders obvious any claim of the '217 Patent. *Id.*

Second, a POSA would not be motivated to combine Kircher and Krug to create the inventions in the '217 Patent because the two references are so different. *Id.* ¶ 141. On the one hand, Krug relates to searching objects on the Internet and, in particular, searching electronic catalogs of mail order companies. *Id.* Krug is, therefore, an invention relating to retrieving objects on the Internet in response to search queries. *Id.* In contrast to the search/retrieval system in Krug, Kircher relates to email messages. *Id.* A POSA would not

look to Krug at all to solve the problems solved in the '217 Patent, let alone combining Kircher with Krug to do so. *Id.*

Third, a POSA would not be motivated to combine the references as Petitioner advances. EX2001, ¶ 142. As set forth above Kircher does not disclose “*track[ing] actions by a plurality of users associated with an application for managing electronic content*”; “*determining 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*”; or “*determining the relevance score ... based at least in part on the first determined measure of relevance ...*” *Id.* Krug does not disclose “*determining the relevance score of the piece of electronic content sent from the sender to the user.*” *Id.* Therefore, to create the invention in the '217 Patent claims would require more than simply borrowing from Krug a single feature that is missing from Kircher. *Id.* The only reason to combine Kircher's “sent” electronic content with Krug's tracking users' actions, for example, would be hindsight reasoning, using the claims as a roadmap. *Id.*

Fourth, a POSA would not know how to combine such different references into the inventive system of the '217 Patent. EX2001, ¶ 143. Dr. Houh does not explain exactly how a POSA would combine the references, and it is not obvious how a POSA would combine the references. *Id.* For example, Krug determines relevant objects in response to a search on the Internet, comparing user profiles and object profiles and using Euclidian distance to determine relevancy. *Id.* Krug does not consider the relevancy of sent pieces of electronic content. *Id.* In contrast, Kircher considers the relevancy of emails based upon three enumerated factors (sender importance, personalization, and content), each having

specific subfactors. *Id.* Dr. Houh does not explain which features of Kircher and Krug would be kept and which features would be discarded in the combination. *Id.* For example, would the combination still use Krug's Euclidian distance calculations between object profiles and user profiles? Or would that feature of Krug be discarded? If so, why would a skilled artisan be motivated to discard that feature from Krug? Or would the combination somehow use both Krug's Euclidian distance and also use Kircher's three factors? If so, how? It is not obvious how a skilled artisan would combine Kircher and Krug. *Id.* Determining how the references could be combined into a single system or method would require an undue amount of additional work and research. *Id.*

Finally, a POSA would not expect to succeed in combining the references as Petitioner advances. EX2001, ¶ 144. For example, Kircher and Krug use two different ranking mechanisms/functions. *Id.* These functions are different and heterogeneous in nature. Hence, a POSA would expect that combining Kircher and Krug may not be feasible. *Id.*

A POSA would expect that simple substitution of elements between Kircher and Krug may not work. EX2001, ¶ 145. On one hand, Kircher's scoring function is based on three factors (sender importance, degree of personalization, and content importance). *Id.* On the other hand, Krug's scoring function is based on a number of factors such as intrinsic value of an object, distance between user profile and object profile. *Id.* These two score functions are incompatible to each other-- heterogeneous in nature. *Id.* Therefore, simple merging/substitution will not work. *Id.*

Kircher and Krug use different ranking functions. EX2001, ¶ 146. Functions use various components/features that may be present in one patent and absent in another patent-heterogeneous collections. *Id.* More specifically, in Kircher score is a function of sender importance, personalization, and content importance. *Id.* In Krug, score between kth object and jth user is a function of absolute numeric value of kth object, user specific intrinsic value of kth object, ..., difference of the profile aspect of kth object and jth user. *Id.*

It is only through hindsight that a POSA would be motivated to combine the references. EX2001, ¶ 147. In particular, the only reason a POSA would look to combine Kircher and Krug would be to try to recreate, using hindsight, the claims of the '217 Patent. *Id.* This is prohibited. *See, e.g., TQ Delta, LLC v. CISCO Sys., Inc.*, 942 F.3d 1352, 1361 (Fed. Cir. 2019) (“We repeatedly expressed concerns that crediting [conclusory and unsupported expert] testimony risks allowing the challenger to use the challenged patent as a roadmap to reconstruct the claimed invention using disparate elements from the prior art—i.e., the impermissible *ex post* reasoning and hindsight bias that *KSR* warned against.” (internal citations omitted)); *InTouch Techs., Inc. v. VGO Commc'ns, Inc.*, 751 F.3d 1327, 1347 (Fed. Cir. 2014) (stressing the need to guard against hindsight reasoning in the obviousness analysis); *Mintz v. Dietz & Watson, Inc.*, 679 F.3d 1372, 1378 (Fed. Cir. 2012) (noting the need to “guard against slipping into use of hindsight”).

For all of these reasons, Petitioner has failed to establish a reasonable likelihood that it will prevail in showing that the challenged claims are unpatentable as obvious based upon the combination of Kircher and Krug. Therefore, Petitioner's request to institute on this ground should be denied.

E. Petitioner's Alleged Obviousness Combination of Kircher, Krug, and Marston Does Not Render Obvious Any Claim.

Petitioner asserts that Claims 4, 10-12, 16-17, and 20-21 are obvious based on the combination of Kircher, Krug, and Marston. Petition, at 76-77. However, for this obviousness combination, Petitioner relies upon the same arguments made previously with respect to the Dumais/Marston combination. Petition, at 77 (citing Petition, at 43-47). As set forth above, however, for Claims 1, 6, and 7, Petitioner relied upon the primary reference (Dumais) to supply nearly every limitation; Petitioner relied upon Marston to supply only Elements-1[c]/6[a]. Petition, at 45. In Ground 5, therefore, Petitioner is also relying upon Marston for Elements-1[c]/6[a]. Therefore, Petitioner is relying upon Kircher and Krug to supply every other limitation of Claims 1, 6, and 7. As set forth above, however, Kircher and Krug do not teach or disclose the “*identify...*” limitation and, therefore, the combination of Kircher, Krug, and Marston does not render obvious any independent claim of the ‘217 Patent. EX2001, ¶¶ 148-50.

For each of these reasons, Petitioner has failed to establish a reasonable likelihood that it will prevail in showing that the challenged claims are unpatentable as obvious on the basis of combination of Kircher, Krug, and Dumais. Therefore, Petitioner's request to institute on this ground should be denied.

VI. CONCLUSION

For the reasons set forth herein, Patent Owner respectfully submits that Petitioner has not met its burden of proving that there is a reasonable likelihood that the Petitioner would prevail with respect to at least one of the claims challenged in the petition and,

therefore, respectfully requests that the petition to institute be denied in its entirety. Furthermore, the gaps in its evidence for a term that is in every claim establishes that Petitioner has failed to make a prima facie case of obviousness. Patent Owner respectfully requests the Board to deny Petitioner request to institute an *Inter Partes Review*.

Respectfully submitted,

Dated: March 12, 2025

By: /Devan V. Padmanabhan/
Devan Padmanabhan
Lead Attorney for Patent Owner
Reg. No. 38,262
PADMANABHAN & DAWSON PLLC
9800 Shelard Parkway, Suite 120
Minneapolis, Minnesota 55441
Telephone: 612-444-3377
Email: devan@paddalawgroup.com

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. 42.6(e), I certify that on this 12th day of March, 2025, a true and correct copy of the foregoing **Patent Owner's Preliminary Response Under 37 C.F.R. § 42.107** was served by electronic mail on Petitioner's lead and backup counsel at the following addresses:

WHITE & CASE LLP
David Okano
Yar Chaikovsky
david.okano@whitecase.com
yar.chaikovsky@whitecase.com
WCSterlingComputerXCorp@whitecase.com

By: /Devan V. Padmanabhan/

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