

IPR2025-00299

X Corp. v Sterling Computer

March 11, 2026

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 1

The Grounds of Invalidity

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

See Petition at 2–3.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at **2**

Only Disputed Limitation

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.

6. A computer program product 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-program product having a computer-readable storage medium having computer program instructions encoded thereon 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 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.

7. A computer-implemented method 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 method comprising:

- tracking actions by a plurality of users associated with an application for managing electronic content;
- identifying 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,
- 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;
- determining a second measure of relevance of the piece of electronic content 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
- determining 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.

Only Disputed Limitation

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 at Claim 1.

Claim 1[f]

identify at least one other of the plurality of users that is a recipient of the piece of electronic content and that is cognate to the user, and

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 4

Roadmap

- 1) Claim Construction**
- 2) Dr. Khan's Testimony**
- 3) Grounds 4–5**
- 4) Dumais Is Prior Art**
- 5) Grounds 1–3**
- 6) Secondary Considerations**

Roadmap

1) Claim Construction

2) Dr. Khan's Testimony

3) Grounds 4–5

4) Dumais Is Prior Art

5) Grounds 1–3

6) Secondary Considerations

• The “Module” Limitations

• *“Identifying...”*

• Markush Group

The “Module” Limitations

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 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.

6. A computer program product 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-program product having a computer-readable storage medium having computer program instructions encoded thereon 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 based at least in part on one or more measures derived from the group consisting of:
 - . . .
- 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.

The “*Module*” Limitations

Board:

The computer program module limitations recited in Claims 1 and 6 are not written in means-plus-function format

Petitioner

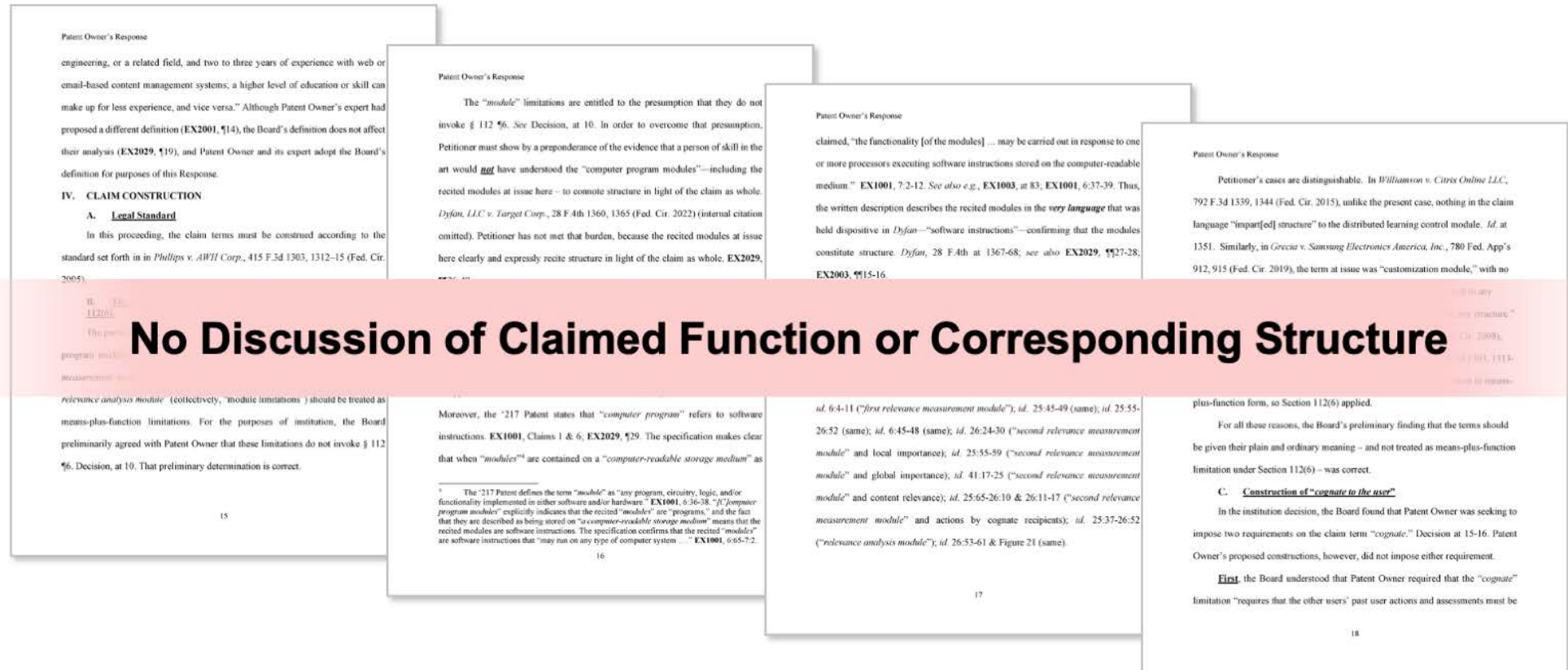
The “*module*” limitations are subject to §112, ¶ 6.

Sterling

The “*module*” limitations are NOT subject to §112, ¶ 6.

Sterling Does Not Challenge the Function/Structure

Patent Owner's Response



POR at 15–18; See Petition at 8–18, Reply at 5.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 9

Corresponding Structure to “*monitoring module*”

Claims

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;

6. A computer program product 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-program product having a computer-readable storage medium having computer program instructions encoded thereon comprising:
a monitoring module configured to track actions by a plurality of users associated with an application for managing electronic content;

Function

track actions by a plurality of users

Exemplary Structure

As described above, an electronic mail system in accordance with one or more embodiments may have a relational mail architecture, in which each piece of content written by a user is managed as a single instance object during its life in the mail system. The granularity of such an architecture may allow the electronic mail system to record all actions by users in the system, ensuring that the system has audited the entire lifecycle of the content. Further, relevance determination

Integration with a conventional email system may be achieved in various ways. In client-side integration, for example, a plug-in to the email client may be used to monitor end users' actions on the mail content. In server-side integration, a relational electronic mail server (e.g., one developed by BLUESPACE SOFTWARE) may be connected to the legacy email server and tag content with “flags” so that it can track what happens to the content. Examples of these two mechanisms are shown in FIG. 7.

Corresponding Structure to “*first relevance...module*”

Claims

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 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;

6. A computer program product 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-program product having a computer-readable storage medium having computer program instructions encoded thereon comprising:
...
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;

Function

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

Exemplary Structure

Now turning to a description of factors used by a relevance analysis engine in accordance with one or more embodiments, a plurality of factors may make up the IRC. The first are indicator functions, $^x\text{IRCD}_{ri}$, which are dichotomous (i.e., are simply “on” or “off”) depending on whether the action has happened or not. This includes attributes such as factors that are available only for past-reading local relevance: “the user opens the electronic mail object” (if so, then $D=1$, if not, then $D=0$); “the user clicks on a hyperlink in the electronic mail object” (if so, then $D=1$, if not, then $D=0$); and “the user replies to the electronic mail object” (if so, then $D=1$, if not, then $D=0$).

Corresponding Structure to “second relevance...module”

Claims

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 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:

6. A computer program product 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-program product having a computer-readable storage medium having computer program instructions encoded thereon comprising:
...
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 based at least in part on one or more measures derived from the group consisting of:

Function

- 1) identifying a cognate user and
- 2) determining a second measure of relevance.

Exemplary Structure for Function (1)

6. 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

Exemplary Structure for Function (2)

$${}^k I_s^g = \alpha^{(k-1)} I_s^g + (1 - \alpha) \left[\begin{array}{l} w_1 f \left(\sum_{r=1}^n f \{ IIC_{sr}^{(k-1)}; I_r^g \} \right) + \\ w_2 f \left(\sum_{j=1}^m {}^{(k-1)} I_s / N_j; \frac{1}{m} \sum_{j=1}^m {}^{(k-1)} I_s / N_j \right) + \\ w_3 f ({}^o HR_s^t) + w_3 f ({}^o HR_s^p) \end{array} \right].$$

Corresponding Structure to “*relevance analysis module*”

Claims

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 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.

6. A computer program product 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-program product having a computer-readable storage medium having computer program instructions encoded thereon comprising:
...
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.

Function

calculating relevance based
on a first and second measure

Exemplary Structure

11. Local Relevance: a local relevance value is the relevance value for a piece of content to a given user that is shown to this user through the interface; it is a function of the user's own IRC, the global and cognate relevance scores, and the combined importance relating to that mail. [symbol: ${}^A R_{\{s\}r}^1$ for content x sent by senders {s} to recipient r]

Corresponding Structure to “content presentation module”

Claims

2. The system of claim 1, further comprising:
a content presentation module configured to present the piece of electronic content to the user in accordance with the determined relevance score and to present to the user a value describing the determined relevance score.

13. The computer program product of claim 6, further comprising:

a content presentation module configured to present the piece of electronic content to the user in accordance with the determined relevance score and to present to the user a value describing the determined relevance score.

herein. Further, the mail presentation module 260 may be used for generating any one or more of the various types of web pages described herein (it is noted that in one or more embodiments, non-web user interfaces may also or instead be presented by the mail presentation module 260). Moreover, for example, the search module 262 may be used for performing any of the search techniques described herein.

Function

- 1) “to present the...content...in accordance with the determined relevance score,” and
- 2) “to present...a value describing the determined relevance score.”

Exemplary Structure



Corresponding Structure to “search module”

Claim

3. The system of claim 1, further comprising:
a search module configured to search the electronic content
in accordance with the determined relevance score.

Function

“search[ing] the electronic content in accordance
with the determined relevance score.”

Exemplary Structure

submessage is likely to be. In yet another example, in the case
of searching through electronic mail, the electronic mail sys-
tem may help rank search results and indicate to the user how
likely each piece of content is to be of interest.

Prior Art Teaches the Function/Structure (Exemplary)

Paper No. 1
Filed: December 12, 2024

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

X CORPORATION,
Petitioner,

v.

STERLING COMPUTERS CORPORATION,
Patent Owner.

Case No. IPR2025-00299
U.S. Patent No. 7,716,217

PETITION FOR *INTER PARTES* REVIEW
UNDER 35 U.S.C. §312 AND 37 C.F.R. §42.104

Mail Stop PATENT BOARD
Patent Trial and Appeal Board
U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Construction

Monitoring Module: The “monitoring module 252...monitors and registers

...

“marks” content). Therefore, the structure described by the specification for carrying out the claimed function is either (1) a “relational mail architecture” or (2) tags or flags within “conventional email system[s].” EX1004, ¶¶117-121.

Example Application (Ground 1 – Elements 1[c]/6[a]/7[a])

Dumais’ “monitor component” tracks user data interaction. EX1006, [0022]. It observes actions such as “when files are opened or closed, edited...replied to, etc.,” and the amount of interaction time with files. EX1006, [0022], [0019]. “[T]he activity or interaction can be monitored and subsequently tagged to a data item.” EX1006, [0019], [0023]. Dumais “track[s] actions” and uses tags/flags to track user activity throughout the system. EX1004, ¶205.

“Module” Is a Well-Known Nonce Word



“Module” is a well-known nonce word that can operate as a substitute for “means” in the context of § 112, para. 6. As the district court found, “ ‘module’ is simply a generic description for software or hardware that performs a specified function.”

Williamson v. Citrix Online, LLC, 792 F.3d 1339, 1350 (Fed. Cir. 2015) (*en banc*)

Generic terms like “module,” “mechanism,” “element,” and “device” are commonly used as verbal constructs that operate, like “means,” to claim a particular function rather than describe a “sufficiently definite structure.”

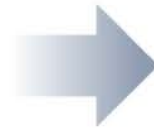
MTD Prods. Inc. v. Iancu, 933 F.3d 1336, 1341 (Fed. Cir. 2019)

See Petition at 8, Reply at 3.

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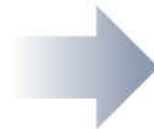
The Claims Use “*Module*” As Replacement For “Means”

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



“a monitoring ***means*** configured to track actions by a plurality of users associated with an application for managing electronic content”

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



“a second relevance measurement ***means*** coupled to the monitoring module and configured to:”

Dyfan v. Target Is Inapposite

Fintiv, Inc. v. PayPal Holdings, Inc.

Houh Decl. & Justin Marston Depo.

This court relied on the unrebutted testimony from the patent challenger's own expert testifying that a POSA would have (1) understood the "code" / "application" limitations "connote a class of structures" and (2) known the recited claim functions could be implemented using "off-the-shelf" code or applications.

Fintiv, Inc. v. PayPal Hold., Inc., 134 F.4th 1377, 1383 (Fed. Cir. 2025) (discussing *Dyfan, LLC v. Target Corp.* 28 F.4th 1360 (Fed. Cir. 2022))



110. In my opinion, the term "*module*" does not convey to a POSA a specific structure for performing the functions recited in the claim. The term "*module*" can

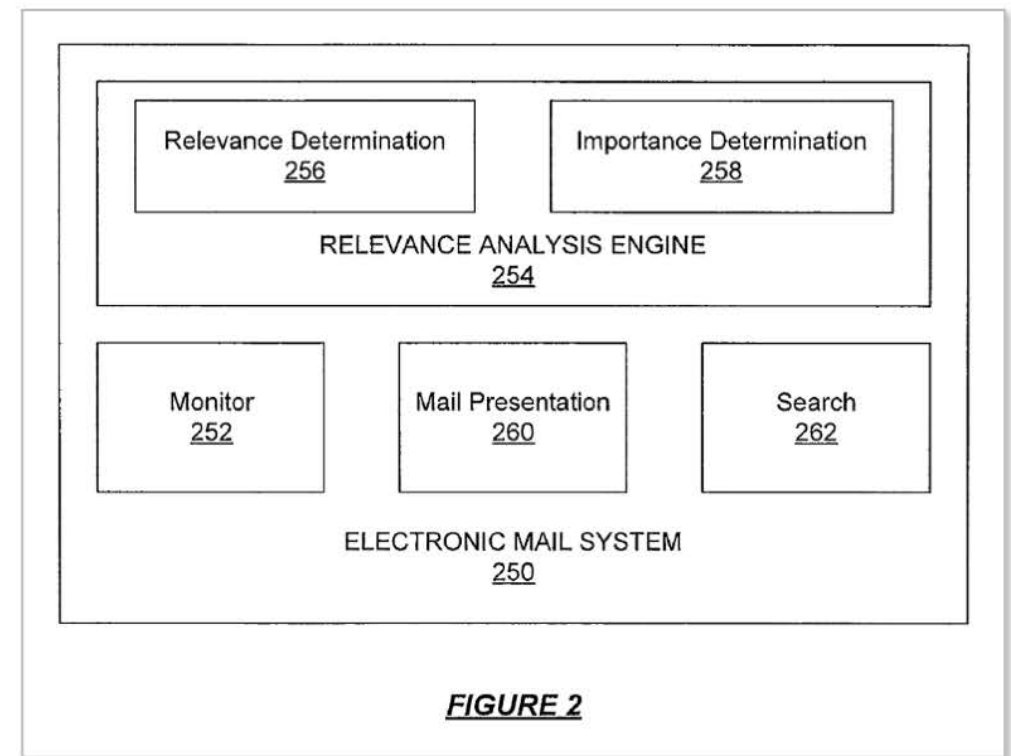


- Q. And so you wouldn't say that this is a conventional or necessary part of a computer system?
- A. No, I would not.
- Q. And a computer would need to be specifically programmed to implement this first relevance measurement module?
- A. Yes.
- Q. And a general purpose computer without that programming could not perform the steps of the first relevance measurement module?
- A. Yes. Yes, that's correct. It couldn't do it.

Specification: Module Refers to Generic Program

'217 Patent

or more embodiments. As shown in FIG. 2, the electronic mail system **250** has a plurality of modules, where a “module” may be any program, circuitry, logic, and/or functionality implemented in either software and/or hardware.



EX1001 at 6:36–38, Fig. 2; See Petition at 9, Reply at 4.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 20

Sterling Admits Claims Do Not Convey Structure



Khan Depo.

Q. Okay. So a person of skill would look to Figure 22 to figure out the flow of the calculations and then would look to the equations in order to determine the precise calculations. Is that fair?

...

A. But ordinary skill set person would take a look at Figure 22 and then... ?

Q. And then look at the equations and the specification to determine the precise calculations?

A. Yes. But whether he or she will be able to solve it, that, I don't know. I don't think so, but...

Q. Sorry, the global importance is defined by equation 7?

A. Yeah.

Justin Marston Depo.



Q. How does it determine the first measure of relevance?

A. Does it based on what the actions of the users are on the content.

Q. And how does it take the actions and convert that into a measure of relevance?

A. Using the algorithms that are described in the patent.

Computer Requires Special Programming to Perform Function

Justin Marston Depo.



For a patentee to claim a means for performing a particular function and then to disclose only a general purpose computer as the structure designed to perform that function amounts to **pure functional claiming**. Because general purpose computers can be programmed to perform very different tasks in very different ways, **simply disclosing a computer as the structure designated to perform a particular function does not limit the scope of the claim to “the corresponding structure, material, or acts” that perform the function, as required by section 112 paragraph 6.**

Aristocrat Techs. Australia Pty Ltd. v. Int'l Game Tech.,
521 F.3d 1328, 1333 (Fed. Cir. 2008)

- Q. And so you wouldn't say that this is a conventional or necessary part of a computer system?
- A. No, I would not.
- Q. And a computer would need to be **specifically programmed to implement** this first relevance measurement module?
- A. Yes.
- Q. And a general purpose computer **without that programming could not perform the steps of** the first relevance measurement module?
- A. Yes. Yes, that's correct. **It couldn't do it.**

“Code”/“Programs” Do Not Convey Structure

Case Law

“Program[ming] a computer to perform the recited functions cannot create structure.”

Williamson v. Citrix Online, LLC, 792 F.3d 1339, 1351 (Fed. Cir. 2015) (*en banc*)

Unlike in *Zeroclick, LLC v. Apple Inc.*, 891 F.3d 1003 (Fed. Cir. 2018), where we held that a person of skill would recognize the claimed “program” and “user interface code” as “specific references to conventional graphical user interface programs or code,” the “customization module” is a black box recitation untethered to any specific structure. ... the “customization module” is directed to the “module” nonce word, the prefix to the “module” word imparts no structure, and the specification also fails to impart any structural significance to the term.

Grecia v. Samsung Elecs. Inc., 780 F. App'x 912, 916 (Fed. Cir. 2019) (distinguishing *Zeroclick, LLC v. Apple Inc.*, 891 F.3d 1003 (Fed. Cir. 2018))

EX1001 at 6:36–38; POR at 17; See Reply at 4–5.

'217 Patent & Patent Owner's Response

'217 Patent

or more embodiments. As shown in FIG. 2, the electronic mail system 250 has a plurality of modules, where a “module” may be any program, circuitry, logic, and/or functionality implemented in either software and/or hardware.

For each “module,” the claims go on to explain what the structure is for each “module” and what each “module” does, confirming that these are software instructions that constitute structure. EX1001, at Claims 1 & 6; EX2029, ¶¶29–47.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 23

Finjan Is Inapposite

Finjan, Inc., v. Proofpoint, Inc.

'217 Patent

The term “content processor” has a sufficiently specific structure. Independent Claim 1 describes how the “content processor” interacts with the invention's other components (the transmitter and receiver), which informs the term's structural character. '154 Patent at 17:32–44, 18:7–22; see also *id.* at 17:45–49 (“[S]aid content processor (i) suspends processing of the content after said transmitter transmits the input to the security computer, and (ii) resumes processing of the content after said receiver receives the indicator from the security computer.”).

The specification identifies where the component is located—“Gateway computer 205 includes a content modifier 265, client computer 210 includes a content processor 270, and security computer 215 includes an inspector.” *id.* at 9:8–10; see also *id.* at 15:33–36 (“Client computer 410 includes a content processor 470, such as a web browser, which processes content received from the network.”).

or more embodiments. As shown in FIG. 2, the electronic mail system 250 has a plurality of modules, where a “module” may be any program, circuitry, logic, and/or functionality implemented in either software and/or hardware.

Finjan, Inc., v. Proofpoint, Inc., No. 13-CV-05808-HSG,
2015 WL 7770208, at *11 (N.D. Cal. Dec. 3, 2015)

EX1001 at 6:36–38; See PO Sur-Reply at 5, Reply at 4.

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Analog Devices Is Inapposite

Analog Devices, Inc. v. Xilinx, Inc.

'217 Patent & Justin Marston Depo.

'217 Patent

or more embodiments. As shown in FIG. 2, the electronic mail system 250 has a plurality of modules, where a “module” may be any program, circuitry, logic, and/or functionality implemented in either software and/or hardware.

Patent Owner argues that “[a] circuit alone is sufficiently definite structure to avoid means-plus-function treatment,” and that the '184 patent consistently uses the term “module” to refer to a circuit.

Analog Devices, Inc. v. Xilinx, Inc., No. IPR2020-01597, 2021 WL 1321768, at *6–7 (P.T.A.B. Apr. 8, 2021).



- Q. How does it determine the first measure of relevance?
- A. Does it based on what the actions of the users are on the content.
- Q. And how does it take the actions and convert that into a measure of relevance?
- A. Using the algorithms that are described in the patent.

Roadmap

1) Claim Construction

2) Dr. Khan's Testimony

3) Grounds 4–5

4) Dumais Is Prior Art

5) Grounds 1–3

6) Secondary Considerations

- The “Module” Limitations
- *“Identifying...”*
- Markush Group

"Identifying" Limitation

'217 Patent

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.

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

“Identifying” Limitation

Claim Term	Petitioner	Sterling
<i>“recipient”</i>	Ordinary meaning—someone who receives content by any means.	A “user” who “received a piece of electronic content sent from a sender.”
<i>“identify at least one other of the plurality of users...that is cognate to the user”</i>	identifying at least one user in a group of other users who share similar past user actions and assessments, and/or are defined by direct input by the user.	the “at least one other of the plurality of users” being “identif[ied]” must “share similar past user actions and assessments as the first user, and/or share similar direct input as the first user.”

See Reply at 6–9, POR at 18–22.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at **28**

Claims Do Not Limit “*Recipient*”

'217 Patent

Caterpillar Tractor Co. v. Berco

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 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.

Courts may not introduce into a claim, limitations which are explicitly contained in other claims.

Caterpillar Tractor Co. v. Berco, 714 F.2d 1110, 1116 (Fed. Cir. 1983)

EX1001 at Claim 1; See Reply at 6–8.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 29

X. Corp EX1074
X. Corp v. Sterling Computers Corp.
IPR2025-00299
Page 29 of 175

Claims Do Not Have Sender Requirement for “Recipient”

'217 Patent

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:

evance score of a piece of electronic content sent from a sender to a user, the relevance score determined with respect

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

determining a relevance score of the piece of electronic content and that is cognate to the user, and

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 for determining a relevance score from the sender to the user, the relevance score determined by a first determined measure of relevance and on the second determined measure of relevance.

users that is a recipient of the piece of electronic content and that is cognate to the user; and

Sterling's Proposed Construction

is a ~~recipient of the piece of electronic content~~ **user [who] receives a piece of electronic content sent from a sender** and that cognate to the user, and

users that is a ~~recipient of the piece of electronic content~~ **user [who] receives a piece of electronic content sent from a sender** and that is cognate to the user, and

EX1001 at Claim 1; See Reply at 6–8.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 30

Sterling Excludes “Document Management Application” Embodiment

'217 Patent

electronic messages and content. For example, one or more embodiments may be used for determining relevance in document management applications. In another example, one or

In one or more embodiments, electronic mail content may be managed according to rules specified in a compliance model. Such a model may be used to determine, for example, how long content is kept for, who can access content, where content should reside, and other allowable actions to be carried out by users. FIG. 5 shows an example, in unified mod-

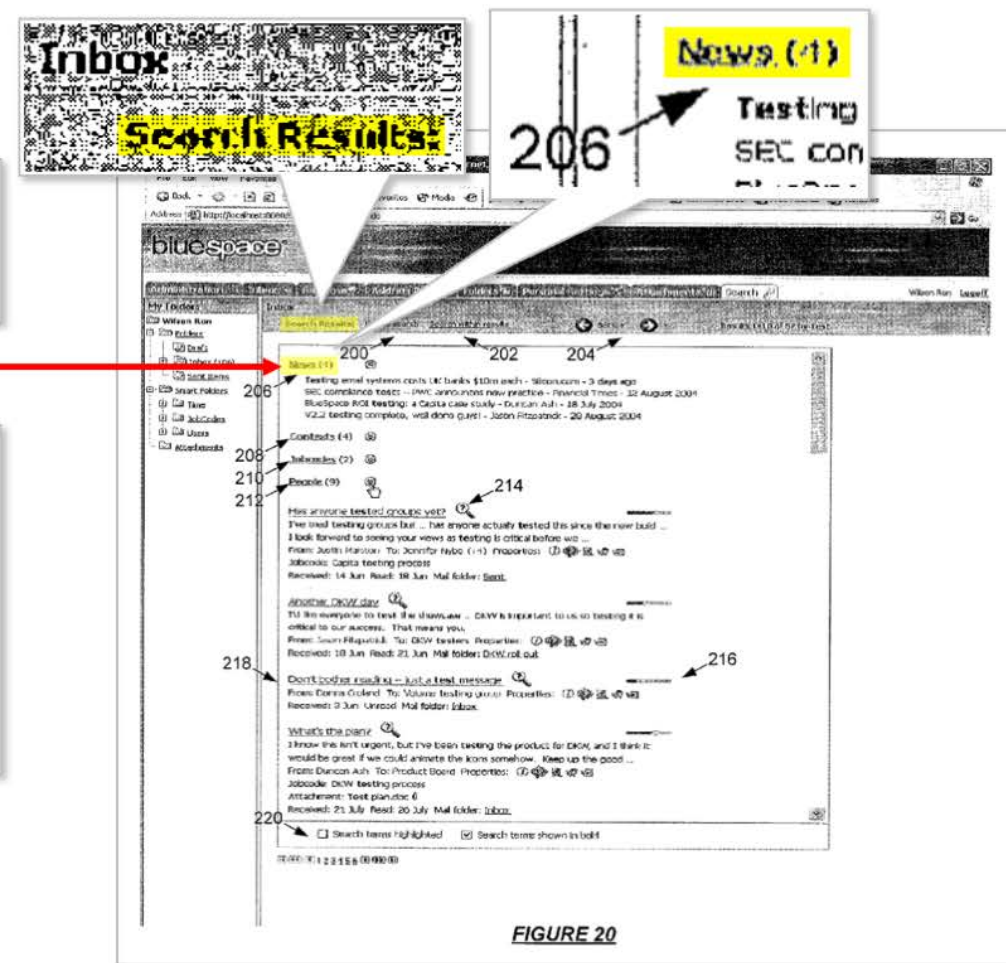
compliance model, search rules may be layered over a content system, determining, for example, who has the right to search different pieces of content in the system. For example, in the case of an investment bank, an analyst might have the right to search all content related to analyst processes written by other analysts; however, the same analyst may not have the ability to search content that does not pertain to his/her role in the bank.

Sterling Excludes Other Embodiments

'217 Patent

FIG. 20 shows a screenshot of an example of an extended view search results web page in accordance with one or more embodiments of the present invention.

Still referring to FIG. 20, a “news” content set 206 is the results of searching an organization’s knowledge base and intranet site, not electronic mail objects. In the example shown, the first two items are links to external content that a search spider found on the intranet site, while the second two items have been written by other employees as part of the organizational knowledge base. It is noted that the search



EX1001 at 3:7–9, 24:4–10, Fig. 20; See Reply at 8.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 32

Dependent Claims Show Electronic Content Is Broad

'217 Patent

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 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.

5. The system of claim 1, wherein the **electronic content** comprises at least one of an email, a **document**, an instant message, and an SMS message.

15. The computer program product of claim 6, wherein the **electronic content** comprises at least one of an email, a **document**, an instant message, and an SMS message.

Sterling's Sur-Reply Is Unsupported

'217 Patent

Patent Owner Sur-Reply

Still referring to FIG. 20, a “news” content set 206 is the results of searching an organization’s knowledge base and intranet site, not electronic mail objects. In the example shown, the first two items are links to external content that a search spider found on the intranet site, while the second two items have been written by other employees as part of the organizational knowledge base. It is noted that the search results presented in accordance with one or more embodiments are highly customizable, and additional content feeds may be placed into these top items. The organization may assign content feeds to each user through the administrative interface or may allow the user themselves to choose different content feeds.

Still referring to FIG. 20, below the categories described above (e.g., news 206, contexts 208, job codes 210, people 212), the search results list hits within electronic mail content. Each search hit highlights the content that caused the item to appear in the search results, with, for example, the following display schema: the subject of the submessage; a magnifying glass containing a question mark; the relevance of the submessage; the body text showing the instances of the search term; the people involved (senders and recipients); a set of property icons similar to those described above with reference to FIG. 8; a job code or attachment name if they are part of the search hit; the date the mail was received and read; and the mail folder in which the respective electronic mail object appears.

Specification does not limit relevance scoring to only email

Petitioner asserts that the “search” embodiment of the ‘217 Patent “ranks content that is ‘not electronic mail objects.’” Reply, 7 (citing Fig. 20). Not true. The search embodiment of Figure 20 displays search results that include both emails and non-email items. *Id.* 24:4-53. However, only emails were scored for relevance according to the invention (*id.* 24:28 & 24:32-33):

EX1001 at 24:4–16, 24:26–40; See Reply at 7–8, PO Sur-Reply at 8.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 34

Unclear If Sterling Disputes Whether “Cognate” Excludes Groups

Reply

Patent Owner Sur-Reply

2. “Cognate” Is Not Limited to a Particular User

Sterling attempts to distinguish Dumais and Kircher/Krug by importing two limitations: (1) excluding “cognate groups” (i.e., must be “a **particular other** user” (POR,20)) and (2) requiring users share “similar past user actions and assessments” (or **the same** direct input).” POR,20. Sterling’s attempt should be rejected.

C. The “cognate” Limitation.

Petitioner asserts Patent Owner construed “cognate” to exclude groups of users. **That is not true.** See, e.g., EX2029, ¶¶72-75,80-85; Resp.8,10-14.

Petitioner asserts Patent Owner contends the claims “require[] ‘identify[ing]’” a “cognate” user based on “past actions” (as opposed to direct input). Reply,8-9 (citing POR,19). **That is not true.** See, e.g., EX2029, ¶80; Resp.20-21.

Reply at 8; PO Sur-Reply at 10.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 35

“Cognate” Defined Broadly In Specification

'217 Patent

Houh Decl.



6. 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

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).

169. In my opinion, in the context of the '217 Patent “*identify[ing] at least one other of the plurality of users . . . that is cognate to the user*” is identifying at least one user in a group of other users who share similar past user actions and assessments, and/or are defined by direct input by a user.

"Cognate" Does Not Exclude Groups

'217 Patent

Patent Owner's Response

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

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

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 at Claim 1; POR at 20; See Reply at 8.

For institution purposes, the Board adopted Petitioner's interpretation of "*cognate to the user*" "to 'mean[] identifying at least one user in a group of other users who share similar past user actions and assessments, and/or are defined by direct input by the user.'" Decision, at 15 (citing Pet. 18 & Ex. 1004 ¶169). Patent Owner objects to this proposed construction because it ignores that the claim requires that the second user must "share similar past user actions and assessments" (or the same direct input) **with a particular other user** – i.e., the first user for which relevancy is being determined. In particular, the claim states that the second user must be "*cognate to the [first] user*." Petitioner's proposed construction ignores this

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 37

“Cognate” Does Not Exclude Groups

'217 Patent

Patent Owner's Response

In regard to recognizing “cognate” entities are referred to above, an electronic mail system in accordance with one or more embodiments may identify a “cognate group” for a user, based on historical actions. More particularly, for each user, over time, the system may identify a cognate group of the n other users regarded as most similar. Such a group may be defined by similar past user actions and assessments, and/or a direct input by a user. Further, it is noted that it may not be inherent that the population of recipients falls into separate

6. 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

For institution purposes, the Board adopted Petitioner's interpretation of “cognate to the user” “to ‘mean[] identifying at least one user in a group of other users who share similar past user actions and assessments, and/or are defined by direct input by the user.’” Decision, at 15 (citing Pet. 18 & Ex. 1004 ¶169). Patent Owner objects to this proposed construction because it ignores that the claim requires that the second user must “share similar past user actions and assessments” (or the same direct input) **with a particular other user** – i.e., the first user for which relevancy is being determined. In particular, the claim states that the second user must be “cognate to the [first] user.” Petitioner's proposed construction ignores this

“Cognate” Not Limited to “Past Actions”

'217 Patent

Patent Owner's Response

6. 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

For institution purposes, the Board adopted Petitioner's interpretation of “*cognate to the user*” “to ‘mean[] identifying at least one user in a group of other users who share similar past user actions and assessments, and/or are defined by direct input by the user.’” Decision, at 15 (citing Pet. 18 & Ex. 1004 ¶169). Patent Owner objects to this proposed construction because it ignores that the claim requires that the second user must “share similar past user actions and assessments” (or the same direct input) with a particular other user – i.e., the first user for which

Roadmap

1) Claim Construction

2) Dr. Khan's Testimony

3) Grounds 4–5

4) Dumais Is Prior Art

5) Grounds 1–3

6) Secondary Considerations

- The “Module” Limitations
- *“Identifying...”*
- Markush Group

Undisputed: Elements 1[g]/6[e]/7[d] Are Markush Group

Petition

Institution Decision

1[g]	determine a second measure of relevance of the piece of electronic content [as] based at least in part on one or more measures derived from the group consisting of:
1[g][i]	a local importance describing an importance of the sender to the user,
1[g][ii]	a global importance describing an importance of the sender within an organization with which the plurality of users are associated,
1[g][iii]	a content relevance determined responsive to content of the piece of electronic content, and
1[g][iv]	one or more actions on the piece of electronic content of the at least one other of the plurality of users that is a recipient of the piece of electronic content and that is cognate to the user; and

6[e]	determine a second measure of relevance of the piece of electronic content based at least in part on one or more measures derived from the group consisting of:
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7[d]	determining a second measure of relevance of the piece of electronic content based at least in part on one or more measures derived from the group consisting of:
------	---

We adopt Petitioner's construction, which Patent Owner does not dispute at this stage in the proceeding. *See* Prelim. Resp. The claimed determination is "based at least in part on *one* or more measures derived from the group" members listed. As such, the claim language is clear that only one member of the group, i.e., one of limitations 1[g][i]–1[g][iv], is required to meet the claim. Independent claims 6 and 7 recite similar limitations as claim 1, and for purposes of institution, we adopt Petitioner's claim construction for those similar limitations. *See* Ex. 1001, 48:35–46, 49:1–11.

Roadmap

- 1) Claim Construction
- 2) Dr. Khan's Testimony**
- 3) Grounds 4–5
- 4) Dumais Is Prior Art
- 5) Grounds 1–3
- 6) Secondary Considerations

Dr. Khan Distinguishes Prior Art Using Requirement Not in Claims

'217 Patent

Khan Depo.



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.

Q. You were evaluating the relative **quality** between the algorithms for the '217 patent and the algorithms for the prior art when you were forming the analysis of the claims?

A. Correct.

Dr. Khan Evaluated “Relative Quality” of Prior Art



Khan Depo.

Q. I'm not asking what usually happens, Dr. Khan. I'm asking whether Dumais can process e-mail messages, which it says it can do in paragraph 31.

A. Yeah, the writing said yes.

Q. And so—but you're—you're disagreeing that it's capable of doing it?

A. Yeah, I disagree with the—eventually the end results may not be good, or it—what the original—because it doesn't take into consideration sender concepts, recipient concepts, and all this importancy. So the result may not be that high quality.

Q. You understand because the same person is an inventor on both this patent and the 217 patent that the term “relational model” as used here is the same as how “relational model” is used in the '217 patent?

A. But patent '217, the focus is different. As a more improved ranking or the quality of the result.

Q. And so in order to make sure that the computer email system 250 can effectively run on a general purpose personal computer, you would need to make sure that the CPU is powerful enough to run the program?

A. I think this patent focuses on the quality of the result.

Q. You said that a powerful enough—that we need a powerful enough CPU so that we get a response in a reasonable time. That is necessary to implement the computer mail system 250 on a general purpose computer.

A. Okay, I want to enter a couple of things. The important part is the ranking or the quality—the results will be important in a certain order, right?

Additional Unrecited Limitations Relied on by Dr. Khan

Khan Decl.

125. One way in which Dumais and the '217 Patent differ is that Dumais is primarily used for query modification. If there is no query, Dumais does not apply. In contrast, the '217 Patent focuses on assigning a relevance score to inter-person communications, such as emails and other types of sent messages. The '217 Patent assigns a relevance score to content in the absence of any query. Although Dumais mentions email in passing (as a type of document that can be queried), communications are not the focus of Dumais. For example, unlike the '217 Patent, Dumais does not focus on the importance of the “sender” or identifying “recipients.”

130. Another difference between Dumais and the '217 Patent is that Dumais employs a two-step process, which differs from the approach in the '217 Patent. Unlike Dumais, the '217 Patent does not incorporate query rewriting, a key component of Dumais' method.

2. Dumais Does Not Teach, Disclose, or Render Obvious 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.”

Dr. Khan's Opinions Do Not Negate Prior Art



To contradict a reference, an unsupported opinion is not substantial evidence. See *Homeland Housewares, LLC v. Whirlpool Corp.*, 865 F.3d 1372, 1378 (Fed. Cir. 2017) (“[W]e must disregard the testimony of an expert that is plainly inconsistent with the record, or based on an incorrect understanding of the claim[s].”)

Ericsson Inc. v. Intell. Ventures I LLC, 890 F.3d 1336, 1346 (Fed. Cir. 2018)

See Pet. Mot. to Exclude at 4.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 46

Dr. Khan's Testimony Is Inconsistent With Record



The Board also found that Homeland “left the testimony of Patent Owner's witness, Mr. Faerber, unrebutted. Under such circumstances, [it was] unwilling to discount Mr. Faerber's testimony that Wulf” does not anticipate. However, **we must disregard the testimony of an expert that is plainly inconsistent with the record**, or “based on an incorrect understanding of the claim[s].” That is the situation here, where Faerber makes several incorrect statements with respect to the record, and **in one respect, adds an additional claim requirement.**

Homeland Housewares, LLC v. Whirlpool Corp., 865 F.3d 1372, 1378 (Fed. Cir. 2017)
(citations omitted, reversing Board)

See Pet. Mot. to Exclude at 4.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at **47**

Prior Art Contradicts Dr. Khan's Opinions

Dumais



[0031] The systems and methods described herein support a plurality of data processing applications. This includes processing data items such as documents, files, email messages, calendar appointments, web pages, sub-sections within the data items' or cross-item abstractions, for example. Applying tags to the data items can represent a

2. The system of claim 1, the data items include documents, files, email messages, calendar appointment, web pages, sub-sections within the data items, or cross-item abstractions.

EX1006 at [0031], Claim 2 (see also [0045], [0051], [0056], [0058], [0064]); EX1058 at 159:7-162:15; EX2029 at ¶125; See Reply at 2, Pet. Mot. to Exclude at 4.

Khan Depo. & Decl.



communications, such as emails and other types of sent messages. The '217 Patent assigns a relevance score to content in the absence of any query. Although Dumais mentions email in passing (as a type of document that can be queried), communications are not the focus of Dumais. For example, unlike the '217 Patent, Dumais does not focus on the importance of the "sender" or identifying "recipients."

- Q. I'm not asking what usually happens, Dr. Khan. I'm asking whether Dumais can process e-mail messages, which it says it can do in paragraph 31.
- A. Yeah, the writing said yes.
- Q. And so—but you're—you're disagreeing that it's capable of doing it?
- A. Yeah, I disagree with the—eventually the end results may not be good, or it—what the original—because it doesn't take into consideration sender concepts, recipient concepts, and all this importancy. So the result may not be that high quality.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 48

Dr. Khan Applied Wrong Legal Standard for POSITA

KSR Int'l Co. v. Teleflex Inc.

Khan Depo.



A person of ordinary skill is also a person of ordinary creativity, not an automaton.

KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 421 (2007)

Q. So you're saying that a person of ordinary skill in the art may **not necessarily be creative?**

A. **Yeah.**

...

Q. You have here the definition of a person of ordinary skill in the art.

A. Yeah.

Q. I'm asking: Do you understand that a person of ordinary skill **can fit multiple teachings of references together like pieces of a puzzle?**

A. **In this context, no.**

Roadmap

1) Claim Construction

2) Dr. Khan's Testimony

3) Grounds 4–5

4) Dumais Is Prior Art

5) Grounds 1–3

6) Secondary Considerations

- Kircher and Krug
- Combination of Kircher and Krug
- Kircher and Krug Are Analogous Art
- Sterling's Faulty Analysis
- Kircher/Krug Discloses Elements 1[f]/6[d]/7[b]

Kircher and Krug Disclose Challenged Claims

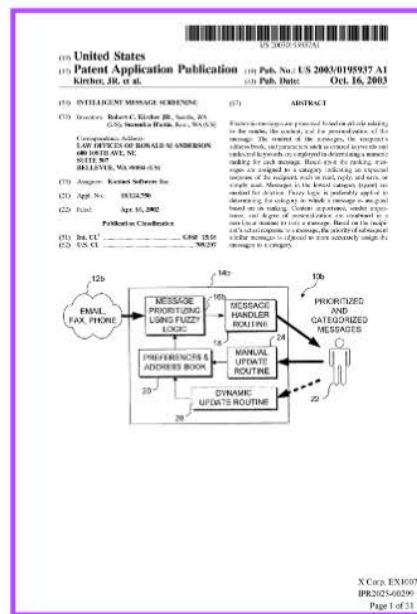
'217 Patent

Kircher & Krug

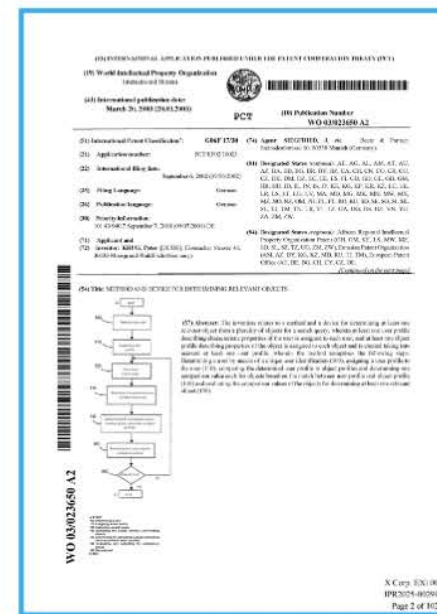
1. A computer-implemented system for determining a relevance score of a piece of electronic content sent from a sender to a user, the relevance score determined with respect to the user, the computer-implemented system comprising:

- 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.

Kircher



Krug



EX1001 at Claim 1; EX1007; EX1008; See Reply at 9–18.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 51

Kircher/Krug Grounds

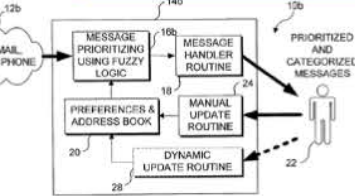
Ground	Claims	Prior Art
1 §103	1–3, 5–9, 13–15, 18–19, 22	Dumais
2 §103	1–3, 5–9, 13–15, 18–19, 22	Dumais in view of AAPA
3 §103	1–22	Dumais in view of Marston
4 §103	1–3, 5–9, 13–15, 18–19, 22	Kircher and Krug
5 §103	4, 10–12, 16–17, 20–21	Kircher and Krug with Marston

D. Ground 5: Kircher/Krug with Marston renders Claims 1 4, 10-12, 16-17, and 20-21 obvious

It would have been obvious to include Marston's “relational mail architecture” in Kircher/Krug. EX1004, ¶¶580-582. A POSA would have also been motivated to make the combination for the same reasons as above. *Supra* §VI.C.4.

Kircher & Krug

Krug

 US 2003/0195937 A1	
(35) United States (12) Patent Application Publication Kircher, JR. et al.	
(54) INTELLIGENT MESSAGE HANDLING (73) Inventors: Robert C. Kircher (US); Steven J. Kircher (US) Correspondence Address: LAW OFFICES OF ROY AND SMITH, INC., PC SUITE 307 BELLEVUE, WA 98004	
(72) Assignee: Konstant Software Inc. (21) Appl. No.: 10/124,790 (22) Filed: Apr. 16, 2003 Publication Class:	
(31) Int. Cl. (52) G06F 01/00	
(10) Pub. No.: US 2003/0195937 A1 (43) Pub. Date: Oct. 16, 2003	
(22) Filed: Apr. 16, 2002	
 <pre> graph LR 12a((EMAIL, FAX, PHONE)) --> 10a[MESSAGE PRIORITIZING USING FUZZY LOGIC] 10a --> 14a[MESSAGE HANDLER ROUTINE] 14a --> 12b((PRIORITIZED AND CATEGORIZED MESSAGES)) 18[MANUAL UPDATE ROUTINE] --> 10a 20[PREFERENCES & ADDRESS BOOK] --> 18 20 --> 22[DYNAMIC UPDATE ROUTINE] 22 -.-> 18 22 -.-> 14a 22 -.-> 12b 24((USER)) --> 18 24 -.-> 22 </pre>	

<p>(43) International publication date: March 20, 2003 (20.03.2003)</p>		<p>Patent Number WO 03/023650 A2</p>
<p>(30) Priority information: 101 43 940.7 September 7, 2001 (09/07/2001) DE</p>		<p>IPC Class. (Int. Cl.) G06F 17/00</p>
<p>Applicant IBM Corp.</p>	<p>Inventor IBM Corp.</p>	<p>Attorney IBM Corp.</p>
<p>Agent IBM Corp.</p>	<p>Address IBM Corp.</p>	<p>Country IBM Corp.</p>
<p>(54) Title: METHOD AND DEVICE FOR DETERMINING RELEVANT OBJECTS</p>		
<p>(57) Abstract: The invention relates to a method and a device for determining at least one relevant object from a plurality of objects for a search query, wherein at least one user profile describing characteristics of the user is assigned to each user, and at least one object profile describing properties of the object is assigned to each object and it is carried out taking into account at least one user profile, wherein the method comprises the following steps: Determining a user by means of a unique user identification (101), assigning a user profile to the user (102), comparing the determined user profile to object profiles and determining one comparison value such for objects based on the match between user profile and object profile (103) and evaluating the comparison values of the objects for determining at least one relevant object (104).</p>		

Grounds 4–5: Sterling’s Counter-Arguments

'217 Patent

Kircher & Krug

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 or more measurement of:

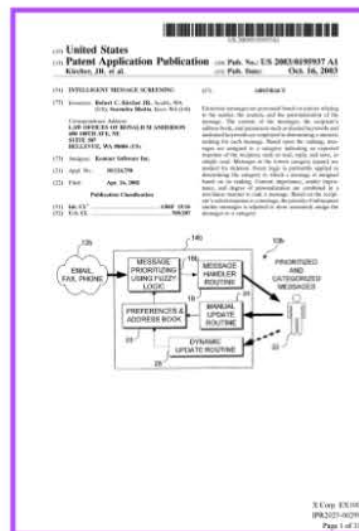
- a local importance of the sender to the user;
- a global importance of the sender with respect to the plurality of users associated with the application;
- a content relevance determined responsive to content of the piece of electronic content, and
- one or more actions on the piece of electronic content 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.

Claim 1[f]

identify at least one other of the plurality of users that is a recipient of the piece of electronic content and that is cognate to the user, and

Kircher



Krug



EX1001 at Claim 1; EX1007; EX1008; See Reply at 9–18.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 54

Roadmap

1) Claim Construction

2) Dr. Khan's Testimony

3) Grounds 4–5

4) Dumais Is Prior Art

5) Grounds 1–3

6) Secondary Considerations

- Kircher and Krug
- **Combination of Kircher and Krug**
- Kircher and Krug Are Analogous Art
- Sterling's Faulty Analysis
- Kircher/Krug Discloses Elements 1[f]/6[d]/7[b]

Petition



deleted without further regard. FIG. 3B shows an email inbox 46 in which the contents of the inbox have been prioritized in accord with the present invention. In inbox 46, the messages have been ranked according to the likely importance of each message to the recipient, as determined by a logical process described in detail below. Thus, a user

Krug Ranks Documents/Objects Based on Relevance

Petition

Krug

Usage intensity/intrinsic value		
Object	IA	WO
http://www.microsoft.com	1,8	1,98
http://www.mirrow.net	1,79	1,12
http://www.friends.ur	1,63	1,98
http://www.jaroslaw.com	1,62	1,08
http://www.alibi.net	1,6	1,58
http://www.jabaona.com	1,47	1,35
http://www.sportsworld.de	1,42	2,03
http://www.ibm.com	1,42	1,78
http://www.xtoy.com	1,11	1,45
http://www.hacker.net	1,01	1,87
http://www.javamet.com	0,9	1,76
http://www.fengshui.de	0,89	0,12
http://www.hesi.com	0,81	1,58

12

Absolute intrinsic value

Object	WO
O1 http://www.microsoft.com	0,11
O2 http://www.mirrow.net	1,12
...	1,8
...	1,4
...	1,5
Oj	1,35
...	2,30
...	1,78
...	1,45
...	1,87
...	1,76
...	0,12
On http://www.goispunkl	1,8

15

Krug

[0128] Based on the determined comparison values of the objects, an evaluation is carried out to determine the relevant objects from the plurality of available objects. The evaluation can be done, for example, by sorting the objects according to their comparison value, wherein a high comparison value indicates a high relevance and a lower comparison value indicates a lower relevance. The objects, with their rating if applicable, are presented in a sorted hit list to the user, who can select and access

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(72) Designated States (national): AE, AU, AT, AU, AZ, BA, BB, BG, BY, CA, CH, CN, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GR, HU, IE, IL, IN, JP, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, ME, MG, MK, MN, MU, MY, NZ, OM, PA, PE, PG, PH, PL, PT, RU, SD, SE, SG, SI, SK, SL, TM, TN, TR, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW

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(54) Title: METHOD AND DEVICE FOR DETERMINING RELEVANT OBJECTS

(57) Abstract: The invention relates to a method and a device for determining at least one relevant object from a plurality of objects for a search query, wherein at least one user profile describing characteristic properties of the user is assigned to each user, and at least one object profile describing properties of the object is assigned to each object and is entered into a database at least one user profile, wherein the method comprises the following steps: determining a user by means of a unique user identification (105), comparing a user profile to the user (110), comparing the determined user profile to object profiles and determining one comparison value each for objects based on the match between user profile and object profile (115) and evaluating the comparison values of the objects for determining at least one relevant object (120).

X Corp. EX1008
IPR2025-00299
Page 2 of 102

Krug Calculates Relevance Based on “User Groups”

Krug

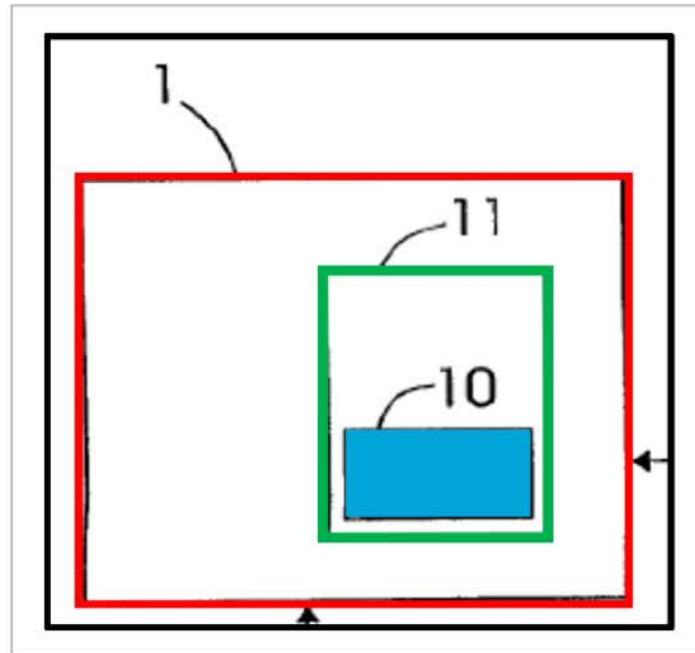
Aspect	Static value	Dynamic value
Sex – female	100	58
Age < 20 years	0	10
Age 20 – 40 years	100	85
Age > 40 years	0	5
Politics	40	20
Sports	30	10
Education	40	30
Technology	10	70

[0011] Each user of the method is assigned at least one user profile that describes characteristic properties of the user. 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.

[0031] In a particular embodiment of the invention, user groups are each provided with their own user profile. The groups of users can be specified (for example, all women) or determined automatically (for example, all users who access a specific object). A single user can be assigned to any number of groups. The assignment to a group can be initiated by a user himself, i.e., it can be done explicitly, for example, by logging in to a group or community. Furthermore, the assignment can also be made implicitly, e.g., based on the presence of certain properties of the user. The profile of a user group is expediently created on the basis of the user profiles of the group members, in particular, as an average user profile of the group members. For a search query, a user can select

POSITA Would Have Integrated Kircher and Krug

Petition & Krug



Key:

- Computer
- Software
- Plugin

Krug

[0099] Fig. 5 shows a further embodiment of the method. A software program according to the invention is installed on the user computer 1 as a plug-in 10 for a commercially available Internet browser 11. The software program 10 logs the user's access to and interactions with objects 4 on the Internet using the Internet browser 11.

Petition at 50–51; EX1008 at [0099]; EX1007 at [0021].

Petition & Kircher

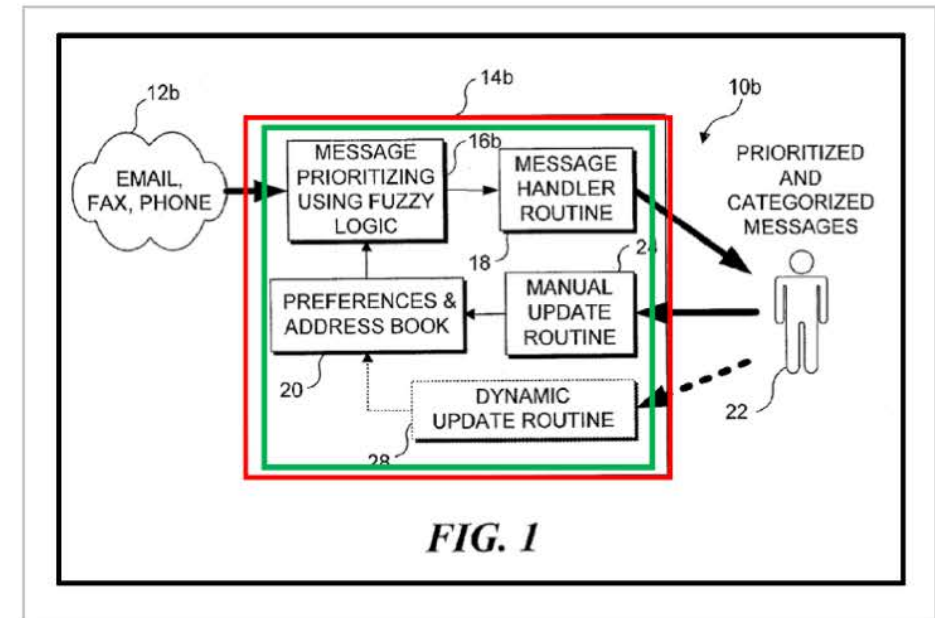


FIG. 1

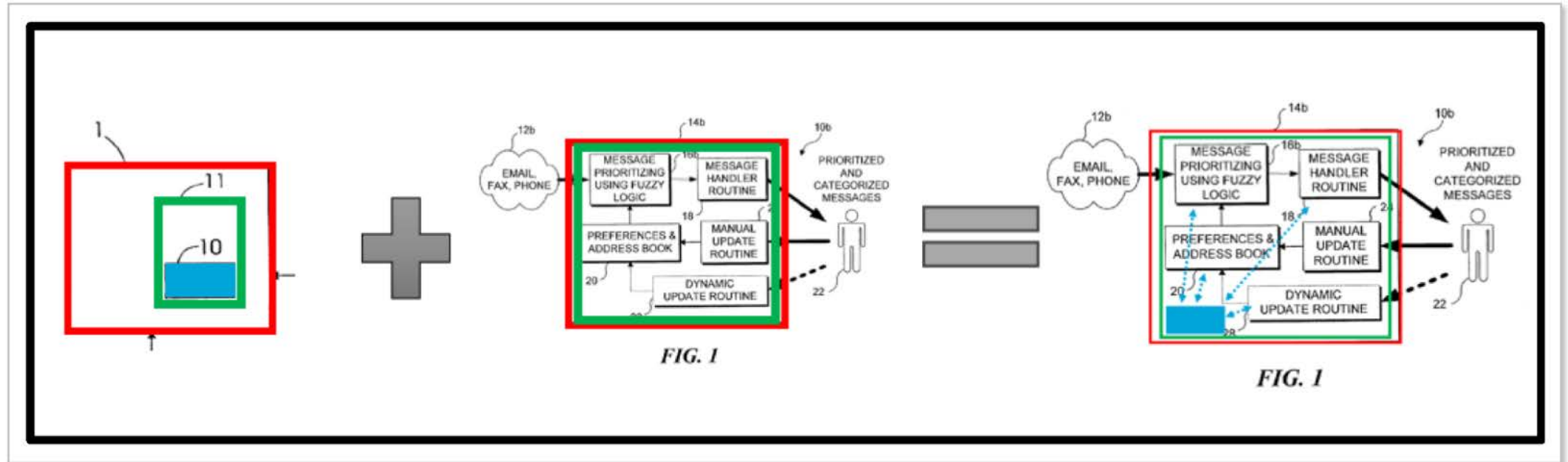
Kircher

[0021] Other aspects of the present invention are directed to a storage medium on which is stored a plurality of machine instructions defining a computer program. When the plurality of machine instructions are executed by a processor, they cause the processor to execute steps gener-

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 59

POSITA Would Have Integrated Kircher and Krug

Petition



Key:

- Computer
- Software
- Plugin

POSITA Would Have Integrated Kircher and Krug

Petition

Houh Decl.



a plurality of functions.” EX1007, [0021], [0047]. Krug’s plug-in (§VI.C.3), would have been integrated with Kircher’s “computer program” (“computer program modules”) so that the software program would have been stored on a “computer-readable storage medium” and executed by the “computer processor” of Kircher. EX1004, ¶¶464-466.

A POSA would have been motivated to combine the filtering and ranking techniques of Kircher and Krug. *Infra* §VI.C.3. Moreover, a POSA would have been motivated to combine Krug’s user profile and object profile comparison system into and Kircher’s electronic message sorting and ranking system. EX1004, ¶¶398-399.

466. In the combination, the invention of Krug (Blue) (i.e., software program 10) would be integrated into the “computer program” (Green) of Kircher and stored on the “computer-readable storage medium” and executed by the processor of Kircher.

Obviousness Does Not Require Physical Substitution



Claims may be obvious in view of a combination of references, even if the features of one reference cannot be substituted physically into the structure of the other reference.

Orthopedic Equip. Co., Inc. v. U.S., 702 F.2d 1005, 1013 (Fed. Cir. 1983)

See Reply at 12.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at **62**

Specification Teaches Use of Plug-Ins

'217 Patent

Conception Doc - EX2004

Integration with a conventional email system may be achieved in various ways. In client-side integration, for example, a plug-in to the email client may be used to monitor end users' actions on the mail content. In server-side integration, a relational electronic mail server (e.g., one developed by BLUESPACE SOFTWARE) may be connected to the legacy email server and tag content with "flags" so that it can track what happens to the content. Examples of these two mechanisms are shown in FIG. 7.

3. The model for importance is reminiscent of that used for the PageRank system by Google, but is not exactly the same. The same iterative procedure, which will employ the basic Gauss-Seidel algorithm is employed however.

Designing Plug-Ins Was Well-Understood



Justin Marston Depo.

BlueSpace Investment Presentation

- Q. Okay. And you mentioned earlier that you created this plug-in because Microsoft **had such a large market share**, basically?
- A. I mean, both e-mail and Outlook; but yes, Microsoft at the time—again, I don't know how much you care about this, but like, Outlook and Exchange was incredibly dominant; ... **So Microsoft had a whole ecosystem around that within Exchange of, you know, compliance tools and archiving tools.** And so one thing was, how do I talk to everybody else when everybody else is using e-mail? And then the second problem was, you know, Outlook—Microsoft just built—by being the leader in the space, they became a platform that others built on top of and around.
- Q. So that ecosystem of tools is basically what you're referring to as the ability of Outlook and Exchange to interact with third-party software?
- A. Yeah. They—they started allowing, you know, third-party systems and developers to build value around their core platform, you know. It became a platform play.
- Q. And so as a developer at that [] time, you **were incentivized to look for ways to integrate your system with the dominant e-mail system of the time**, right?
- A. **Yes.**



EX1050 at 70:15–72:7; EX1052 at 11–15; See Reply at 12.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 64

POSITA Would Have Integrated Kircher and Krug's Relevant Systems

Kircher

Krug

Kircher

[0012] Based on determinable attributes of the electronic messages and user-defined parameters, each message is assigned to one of a plurality of different categories, each category corresponding to at least one user action a recipient might logically perform in response to receiving an electronic message. Based upon the ranking of the electronic messages received, each message is then assigned to one of the plurality of categories. Preferably, the method employs fuzzy logic in ranking the electronic messages.

[0044] Systems utilizing fuzzy logic typically include more than one rule. An entire group of rules is collectively known as a _rulebase_or _knowledge base_.

Krug

[0105] Each object is rated according to the individual criteria. Each criterion is assigned a value whose weight can be varied. The comparison value of the object is, for example, the product or sum of all values. Each of the criteria has a weight that can be varied depending on the type of search query.

[0106] The comparison value for the k-th object and for the j-th user after m system interactions is calculated using the following formula:

$$TR_m(k) = \rho((W_{Om}(k), z1), (W_{Cm}(k), z2), (W_{Um}(k), z3), (G_{Rm}(k), z4), (O_{Cm}(k), z5), (d(Us(j), Om(k)), z6), (H_A(k), z7)), \text{ where}$$

ρ is a function that increases with all parameters and decreases with the sixth parameter;

$z1, \dots, z4$ are the weights for the corresponding criteria of TR; and

$d(Us(j), Om(k))$ is the difference of the profile aspects of the k-th object $Om(k)$ and the j-th user $Us(j)$ after m interactions.

Benefit of Combining Multiple Relevance Systems Was Known

Petition

It would have been obvious to include numerical rankings of Krug in Kircher's system. A POSA would have understood that it was commonplace to combine multiple types of relevance measures together (§III) and would have known that combining Krug's and Kircher's relevance rankings would have been straightforward, with a high likelihood of success. Because Kircher and Krug

Often multiple types of filtering and relevance scoring would be used in a single system to gain the benefits of multiple techniques. A POSA at the time would have understood that systems including multiple filtering techniques often "outperformed" systems using a single filtering technique. EX1035, 1; EX1030, 1-2, 4; EX1036; EX1037; EX1038; EX1011, 1; EX1034, 6; EX1004, ¶¶93-97.

A POSA would have been motivated to combine the filtering and ranking techniques of Kircher and Krug. *Infra* §VI.C.3. Moreover, a POSA would have been motivated to combine Krug's user profile and object profile comparison system into and Kircher's electronic message sorting and ranking system. EX1004, ¶¶398-399.

Benefit of Combining Multiple Relevance Systems Was Known



Houh Decl.

93. Often multiple types of filtering and relevance scoring are used in a single system to gain the benefits of multiple techniques. For example, in 1998, researchers at BellCore, AT&T Labs, and Rutgers published a paper explaining that by combining “social ratings” (*i.e.*, collaborative filtering) and “content-based information” their system could outperform existing systems that relied on collaborative filtering alone. EX1035, 1. Similar concepts were explored in the Claypool and Melville papers. EX1030; EX1036. In a 1999 paper, Claypool presented a “new filtering approach that combine[d] the coverage and speed of content-filters with the depth of collaborative filtering.” EX1030, 1. Claypool explained that:

97. Combining multiple forms of filtering together is often accomplished through a weighted mean. EX1030, 2 (“Our approach is extensible to additional filtering methods by allowing each method to be added as a separate weight in the weighted average.”). This approach has several advantages. In particular, it allows new methods of filtering to be easily added or deleted. *Id.* It also allows “per-user, per-article weights for the content-based and collaborative predictions” where “[t]hese weights can also change over time to reflect the change in user tastes.” *Id.*, 4.

POSITA Would Have Had Multiple Reasons to Combine Kircher & Krug

1. A combination of known elements (Pet., 52)
2. Simple Substitution (Pet., 54)
3. Obvious to try (Pet., 55)
4. To take advantage of Krug's collaborative filtering (Pet., 55)
5. To overcome known issues—failure to learn a recipient's preferences (Pet., 55)
6. To overcome known issues—reduction of spam and irrelevant documents (Pet., 55)
7. Combining multiple filtering techniques outperformed systems that relied on one technique (Pet., 55–56)
8. Combining multiple techniques was well-known and predictable (Pet., 56) and obvious to try (Pet., 56)
9. Handheld devices were becoming commonplace by the early-2000s and sorting through emails on a small display to find the important messages was time consuming (Pet., 56)
10. Increasing utilization of electronic communication in the workplace, would be enhanced by more sophisticated systems such as Kircher for reducing spam/unimportant emails (Pet., 56)

No New Argument

Petition

a plurality of functions.” EX1007, [0021], [0047]. Krug’s plug-in (§VI.C.3), would have been integrated with Kircher’s “computer program” (“*computer program modules*”) so that the software program would have been stored on a “*computer-readable storage medium*” and executed by the “*computer processor*” of Kircher. EX1004, ¶¶464-466.

Patent Owner Response

Now, for the first time in its Reply, Petitioner advances a **new** combination. **First**, instead of “simpl[y]” adding Krug’s “plug-in” to Kircher, Petitioner now seems to admit that Krug’s “functions” would need to be modified.⁴ Reply, 13 (arguing that a POSA would have used “creativity and skill **to combine** the weighted rules (Kircher) and individual criteria (Krug)”); *id.*, 14 (“‘score functions’ could have been combined”). But that is not what the Petition argued. *See* Pet., 50-56 (keeping Krug’s “program,” “numerical rankings,” “known functions,” and “relevance measurement”). **Second**, Petitioner now argues that Krug’s “plug-in” would **not** be

Kircher and Krug Are Software, Not Just Messaging Systems or Plug-Ins

Patent Owner's Response

Kircher & Krug

The statement in Krug that it can be used as a “plug-in” refers to using its invention as “a plug-in 10 for a commercially available Internet browser 11.” EX1008, [0099] (emphasis added). Krug explains that its plug-in “logs the user’s access to and interactions with objects 4 on the Internet using the Internet browser.” *Id.*, [0099] (emphasis added); see also EX1004, ¶424. The system in Kircher (into which Petitioner proposes adding Krug), of course, is not an “Internet browser”; Kircher is an electronic message system. EX1007. Petitioner and its expert provide no analysis of how a skilled artisan would “plug-in” to Kircher’s non-Internet-browser environment. Certainly, Krug does not teach or suggest that its invention can be a “plug-in” for systems other than Internet browsers, including that Krug does not teach or suggest that its invention can be a “plug-in” into an electronic mail system like Kircher. EX2029, ¶214.

Krug

[0099] Fig. 5 shows a further embodiment of the method. A software program according to the invention is installed on the user computer 1 as a plug-in 10 for a commercially available Internet browser 11. The software program 10 logs the user’s access to and interactions with objects 4 on the Internet using the Internet browser 11. The information about the objects (object identifier URL, usage intensity I) is forwarded to the central computer 2. A user’s search request is forwarded, as described, either to the central computer 2 or to the search engine 3.

Kircher

[0021] Other aspects of the present invention are directed to a storage medium on which is stored a plurality of machine instructions defining a computer program. When the plurality of machine instructions are executed by a processor, they cause the processor to execute steps gener-

Sterling's Argument Conflicts With Record

Patent Owner's Reply

Justin Marston Depo.



The statement in Krug that it can be used as a “plug-in” refers to using its invention as “a plug-in 10 for a commercially available Internet browser 11.” EX1008, [0099] (emphasis added). Krug explains that its plug-in “logs the user’s access to and interactions with objects 4 on the Internet using the Internet browser.” *Id.*, [0099] (emphasis added); see also EX1004, ¶424. The system in Kircher (into which Petitioner proposes adding Krug), of course, is not an “Internet browser”; Kircher is an electronic message system. EX1007. Petitioner and its expert provide no analysis of how a skilled artisan would “plug-in” to Kircher’s non-Internet-browser environment. Certainly, Krug does not teach or suggest that its invention can be a “plug-in” for systems other than Internet browsers, including that Krug does not teach or suggest that its invention can be a “plug-in” into an electronic mail system like Kircher. EX2029, ¶214.

- Q. [S]o basically you were combining a small browser within the e-mail client of Outlook in order to access Trans Mail?
- A. Well, I mean, they already had an embedded browser, and we were leveraging it to show a view of TransMail without forcing them to go to Internet Explorer every time they wanted to see it.
- Q. I see. So at this time Outlook already included an embedded browser?
- A. Right.
- Q. And that embedded browser allowed you to access other internet sites, right?
- A. Yeah. I mean, when you get an e-mail that’s got a whole bunch of embedded HTML stuff in it, it’s the browser—it’s the browser that is rendering that. So, you know, it’s a fundamental part of being able to view e-mails. The difference here is being able to see, you know, and interact with that whole application experience without it being tied into, you know, a single e-mail preview pane.
- Q. I see. So having the embedded internet browser is a fundamental part of interacting with HTML e-mail?
- A. Correct.

Claims Cover “Search Queries”

Patent Owner's Response & Krug

Khan Decl.



The “search engine” in Krug is fundamental to the equation used in Krug – i.e., Krug’s formula for calculating the initial priority of objects. EX2029, ¶¶118-121 & 216-217. In Krug’s formula, the initial priority (GR) is a function of two

Krug

[0105] Each object is rated according to the individual criteria. Each criterion is assigned a value whose weight can be varied. The comparison value of the object is, for example, the product or sum of all values. Each of the criteria has a weight that can be varied depending on the type of search query.

[0106] The comparison value for the k-th object and for the j-th user after m system interactions is calculated using the following formula:

$$TR_m(k) = \rho((W_{Om}(k), z1), (W_{Cm}(k), z2), (W_{Um}(k), z3), (GR_m(k), z4), (O_m(k), z5), (d(Us(j), Om(k)), z6), (HA(k), z7)), \text{ where}$$

ρ is a function that increases with all parameters and decreases with the sixth parameter;

$z1, \dots, z4$ are the weights for the corresponding criteria of TR; and

$d(Us(j), Om(k))$ is the difference of the profile aspects of the k-th object $Om(k)$ and the j-th user $Us(j)$ after m interactions.

217. It is important to note that **GR_m(k), the initial priority weight, does not exist in Kircher’s method.** In the Eq 1, the two terms (GR_m(k), $OC_m(k)$) in Krug’s equation are entirely foreign to Kircher’s approach. Therefore, a POSITA would face significant challenges in attempting to combine the two systems.

Ignoring or discarding GR_m(k) would likely result in unsatisfactory outcomes.

218. If a skilled artisan attempted to add Krug’s invention to Kircher, the skilled artisan would need to discard the search engine portion of Krug’s formula. This is because search engines do not have access to, nor do they index, private email content. Therefore, search engines cannot be used to rank email messages.

Conclusory: No Support

Claims Cover “Search Queries”



Khan Depo.

Conception Documents – EX2004

Q. But for Claim 1, you can also use a search?

A. Yes.

1. These formulae are additive in their nature between the three lists, but for importance is interactive within. A further degree of sophistication might be to include degrees of effect, say on user action which is dependent on the importance of the user or other entities. These are then interactions between the actions and the importances.
2. There is no effect on the sender's importance of the Transmail in this model. We could model alternatively with the adjustment to importance being made to the sender rather than the receiver, or both.
3. The model for importance is reminiscent of that used for the PageRank system by Google, but is not exactly the same. The same iterative procedure, which will employ the basic Gauss-Seidel algorithm is employed however.

Petition



Petition Explains “How” and “Why” POSITA Would Have Combined

Patent Owner Response

6. Petitioner’s Kircher-Krug Relies upon Hindsight Reasoning.

As Petitioner and its expert acknowledge, Kircher does not teach or disclose many of the limitations in the ‘217 Patent claims. **EX2029**, ¶¶191-201 (citing **EX1007** & **EX1004**). Because so many limitations are missing from Kircher, Petitioner’s combination must necessarily pull those limitations from Krug. Petitioner’s combination, however, fails to articulate why a skilled artisan would pick those parts of Krug to add to Kircher, and Petitioner’s combination fails to articulate how a skilled artisan would so combine the references. *Id.* ¶¶214-225. The only basis for so combining the references appears to be using hindsight reasoning, using the claims as a roadmap, which is prohibited. *Id.* ¶¶211 & 228.

Petitioner’s expert does not explain why a POSA would select each of the “missing” features from Krug and insert them into Kircher. Petitioner’s expert also does not explain exactly how a POSA would combine the references, and it is not obvious how a POSA would combine the references. **EX2029**, ¶¶205-228. For

Roadmap

1) Claim Construction

2) Dr. Khan's Testimony

3) Grounds 4–5

4) Dumais Is Prior Art

5) Grounds 1–3

6) Secondary Considerations

- Kircher and Krug
- Combination of Kircher and Krug
- **Kircher and Krug Are Analogous Art**
- Sterling's Faulty Analysis
- Kircher/Krug Discloses Elements 1[f]/6[d]/7[b]

Kircher and Krug Are Analogous Art



Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.

Donner Tech., LLC v. Pro Stage Gear, LLC, 979 F.3d 1353, 1359 (Fed. Cir. 2020)

See Reply at 10, Petition at 54–55.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 77

Kircher and Krug in Same Field of Invention as '217 Patent

'217 Patent

Kircher

ABSTRACT

In an electronic mail system, a user's actions with an application for managing electronic content are monitored. Based on the user's actions and/or on the actions of other users in the system, a relevance analysis module determines a relevance to the user of a piece of electronic content based on a likelihood of interest of the electronic content piece to the user and/or a measure of a level of significance the user has to another entity associated with the electronic content piece.

INTELLIGENT MESSAGE SCREENING

FIELD OF THE INVENTION

[0001] This invention relates generally to communications over a network, and more particularly, to a method and apparatus for processing electronic messages conveyed over a network, based on predefined criteria such as the sender of the message and the content of the message, where the recipient's response to and handling of current messages affects the automated processing of future messages.

BACKGROUND OF THE INVENTION

[0002] Electronic messaging system traffic has increased dramatically in the past twenty years. The introduction of

Kircher and Krug in Same Field of Invention as '217 Patent

'217 Patent

Krug

It is noted that although one or more embodiments are described herein with respect to traditional electronic mail, one or more embodiments may be applicable to other forms of electronic messages and content. For example, one or more embodiments may be used for determining relevance in document management applications. In another example, one or more embodiments may be used in conjunction with instant message (IM) communications and/or short message service (SMS) messages.

(57) Abstract: The invention relates to a method and a device for determining at least one relevant object from a plurality of objects for a search query, wherein at least one user profile describing characteristic properties of the user is assigned to each user, and at least one object profile describing properties of the object is assigned to each object and is created taking into account at least one user profile, wherein the method comprises the following steps: Determining a user by means of a unique user identification (100), assigning a user profile to the user (110), comparing the determined user profile to object profiles and determining one comparison value each for objects based on the match between user profile and object profile (140) and evaluating the comparison values of the objects for determining at least one relevant object (150).

[0002] The amount of information available on the Internet is constantly increasing. In order to use the Internet effectively as a source of information, the support from search engines is necessary in order to find content on the Internet. In general, the search for specific content is carried out using a search engine using a full-text method that analyzes the texts of the available electronic documents by evaluating the position, format and number of search terms in the documents and rates the documents in terms of their relevance to the search query. The analysis of the content of the documents makes it possible to determine a similarity between search terms and the content of the documents based on the match with the search terms. However, it is often not possible to sufficiently distinguish between useless and useful documents for the search query. All too often, this simple similarity measure results in the user being presented with a large number of "useless" documents in the content of which the search terms appear more or less randomly, but the topic of which does not match the user's expectations.

EX1001 at 3:43–51; EX1008 at Abstract, [0002]; See Petition at 54, Reply at 9.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 79

Kircher and Krug Solved Same Problem as '217 Patent

'217 Patent

Kircher & Krug

Given the heavy use of electronic mail, many email users receive **hundreds of different emails a day**. Oftentimes, much of the email received by an individual is **irrelevant** (or more colloquially, is “junk”) and serves as a nuisance that the individual must navigate through. *In other situations, while a*

Kircher

net (and other networks). It is not uncommon for **individuals in a busy work environment to receive hundreds of email messages each day**. Unfortunately, many of these email messages are **spam**, i.e., unsolicited email messages from strangers, or of relatively low priority and of **little interest** to the recipient.

Krug

[0002] **The amount of information available on the Internet is constantly increasing.** In order to use the Internet effectively as a source of information, the support from search engines is necessary in order to find content on the Internet. In general, the search for specific content is carried out using a search engine using a full-text method that analyzes the texts of the available electronic documents by evaluating the position, format and number of search terms in the documents and rates the documents in terms of their relevance to the search query. The analysis of the content of the documents makes it possible to determine a similarity between search terms and the content of the documents based on the match with the search terms. However, it is often not possible to sufficiently distinguish between useless and useful documents for the search query. All too often, this simple similarity measure results in the user being **presented with a large number of "useless" documents** in the content of which the search terms appear more or less randomly, but the topic of which does not match the user's expectations.

'217 Patent Is Not Limited to “Managing E-Mails”

'217 Patent

Patent Owner's Response

It is noted that although one or more embodiments are described herein with respect to traditional electronic mail, one or more embodiments may be applicable to other forms of electronic messages and content. For example, one or more embodiments may be used for determining relevance in document management applications. In another example, one or more embodiments may be used in conjunction with instant message (IM) communications and/or short message service (SMS) messages.

First, Petitioner and its expert assert that Krug is “in the same field of endeavor—*i.e.*, email and content management systems.” EX1004, ¶436. To the extent that they are suggesting that Krug is an email management system, that is incorrect. EX2029, ¶209. Krug relates to searching for content on an Internet browser. *Id.* Krug does not relate to managing email. *Id.*

'217 Patent Not Limited to "Spam"

'217 Patent & Krug

Patent Owner's Response

'217 Patent

Given the heavy use of electronic mail, many email users receive hundreds of different emails a day. Oftentimes, much of the email received by an individual is irrelevant (or more colloquially, is "junk") and serves as a nuisance that the individual must navigate through. In other situations, while a certain set of received emails may all be at least somewhat relevant to the recipient, the recipient must still take the time to go through those emails to determine which ones are more important than others.

Krug

[0002] The amount of information available on the Internet is constantly increasing. In order to use the Internet effectively as a source of information, the support from search engines is necessary in order to find content on the Internet. In general, the search for specific content is carried out using a search engine using a full-text method that analyzes the texts of the available electronic documents by evaluating the position, format and number of search terms in the documents and rates the documents in terms of their relevance to the search query. The analysis of the content of the documents makes it possible to determine a similarity between search terms and the content of the documents based on the match with the search terms. However, it is often not possible to sufficiently distinguish between useless and useful documents for the search query. All too often, this simple similarity measure results in the user being presented with a large number of "useless" documents in the content of which the search terms appear more or less randomly, but the topic of which does not match the user's expectations.

Second, Petitioner and its expert state that Krug is "reasonably pertinent" to the problem of "counteracting the proliferation of spam." EX1004, ¶43; *id.* ¶441 ("Krug ... seek[s] to eliminate or reduce the amount of spam..."). That is also incorrect. EX2029, ¶211. Krug relates to searching for content on an Internet browser. *Id.* A skilled artisan would not understand Internet search results to include "spam." *Id.* Instead, a skilled artisan would understand "spam" to relate to unwanted messages in a mail system. *Id.* Krug does not address, or relate to, the proliferation of spam. *Id.*

Roadmap

1) Claim Construction

2) Dr. Khan's Testimony

3) Grounds 4–5

4) Dumais Is Prior Art

5) Grounds 1–3

6) Secondary Considerations

- Kircher and Krug
- Combination of Kircher and Krug
- Kircher and Krug Are Analogous Art
- **Sterling's Faulty Analysis**
- Kircher/Krug Discloses Elements 1[f]/6[d]/7[b]

Dr. Khan Distinguished Art Based on Limitations Not Recited in Claims

'217 Patent

Khan Decl.



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.

159. **Third**, the '217 Patent, on the one hand, and Krug, on the other hand, employ distinct techniques to achieve their objectives. Krug describes evaluating the relevance of objects (i.e., electronic content) on the Internet within the system, then sorts and ranks them accordingly. It employs prioritization and filtering techniques to identify relevant objects for users. The core of Krug's approach relies on user and object profiles, determining similarity based on Euclidean distance. On the other hand, the '217 Patent utilizes a multi-dimensional relevance system that

EX1001 at Claim 1; EX2029 at ¶159; See Reply at 14.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 84

Dr. Khan Did Not Analyze the Combination

Khan Decl.

4. Neither Kircher Nor Krug Teaches or Discloses the “identify[ing] ...” Limitation and, Therefore, the Combination Does Not Render Obvious Any Claim.

165. 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, at Claims. As set forth below, neither Kircher nor Krug teaches or discloses this limitation. Therefore, 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.

a) Kircher Does Not Teach, Disclose, or Render Obvious 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.*”

166. Kircher does not teach or 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.*” In the ‘217 Patent, the purpose of “*identifying*” other “*cognate*” “*recipients*” of the same piece of content is so that the system can then monitor the actions of those other “*cognate*” “*recipients*” to

b) Krug Does Not Teach, Disclose, or Render Obvious 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.*”

168. Like Kircher, Krug also does not teach or 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.*” Krug is a method and device for determining relevant objects in response to a search query on the Internet. EX1008, [0001]. The content being searched for in Krug are objects on the Internet, in particular, electronic catalogs of mail order companies. EX1008, [0010]. Krug does not disclose “*identifying*” another “*recipient*” of the same piece of electronic content.

EX2029 at ¶¶164–165, ¶166, ¶168; See Reply at 14.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 85

Dr. Khan Did Not Analyze the Combination

Khan Depo.

Q. These are your arguments for why Kircher, **on its own**, does not disclose the identifying limitation, correct?

A. **Yes, correct.**

Q. Okay. And then if we go to section (b), paragraphs 168 through—it goes on for some length—190, these are your arguments for why Krug, **on its own**, does not disclose the identifying limitation?

A. **Yes, that's correct.**

Q. And so your argument for why the combination does not disclose the—sorry, strike that. And so your argument for why the combination of Kircher and Krug does not disclose the identifying limitation is because **Kircher does not disclose it and Krug does not disclose it?**

A. **That's correct.** And also, we pointed out if you combine these two model, there is some issue there you cannot combine it.

Roadmap

1) Claim Construction

2) Dr. Khan's Testimony

3) Grounds 4–5

4) Dumais Is Prior Art

5) Grounds 1–3

6) Secondary Considerations

- Kircher and Krug
- Combination of Kircher and Krug
- Kircher and Krug Are Analogous Art
- Sterling's Faulty Analysis
- Kircher/Krug Discloses Elements 1[f]/6[d]/7[b]

Kircher/Krug Discloses Elements 1[f]/6[d]/7[b]

'217 Patent

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.

Claim 1[f]

identify at least one other of the plurality of users that is a recipient of the piece of electronic content and that is cognate to the user, and

Krug Discloses “User Groups”

Krug

Aspect	Static value	Dynamic value
Sex – female	100	58
Age < 20 years	0	10
Age 20 – 40 years	100	85
Age > 40 years	0	5
Politics	40	20
Sports	30	10
Education	40	30
Technology	10	70

[0011] Each user of the method is assigned at least one user profile that describes characteristic properties of the user. 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.

[0031] In a particular embodiment of the invention, user groups are each provided with their own user profile. The groups of users can be specified (for example, all women) or determined automatically (for example, all users who access a specific object). A single user can be assigned to any number of groups. The assignment to a group can be initiated by a user himself, i.e., it can be done explicitly, for example, by logging in to a group or community. Furthermore, the assignment can also be made implicitly, e.g., based on the presence of certain properties of the user. The profile of a user group is expediently created on the basis of the user profiles of the group members, in particular, as an average user profile of the group members. For a search query, a user can select

Krug's "User Groups" Are "Cognate to the User"

'217 Patent

Krug

Claim 1[f]

identify at least one other of the plurality of users that is a recipient of the piece of electronic content and that is cognate to the user, and

6. 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

[0031] In a particular embodiment of the invention, user groups are each provided with their own user profile. The groups of users can be specified (for example, all women) or determined automatically (for example, all users who access a specific object). A single user can be assigned to any number of groups. The assignment to a group can be initiated by a user himself, i.e., it can be done explicitly, for example, by logging in to a group or community. Furthermore, the assignment can also be made implicitly, e.g., based on the presence of certain properties of the user. The profile of a user group is expediently created on the basis of the user profiles of the group members, in particular, as an average user profile of the group members. For a search query, a user can select

that represents a model of the typical user of the object. In addition, group profiles are assigned to the user groups, each of which is an average user profile of the group. The profiles characterize usage behavior and properties of the users to whom they are assigned. Each profile comprises a specified number of aspects, wherein each aspect is

'217 Patent Determines “Cognate Groups” Based on “Access Rights”

'217 Patent

Krug

to the global population. In regard to how such similarity or identification of the cognate group is determined, one or more of the following approaches may be used: role or group based; collaborative filtering; fingerprinting; cluster models; search-based methods; frequency analysis; and importance value correlation. Each of these different approaches, which may be used singly or in any combination, will now be described in turn.

As to cluster models, they work by segmenting users (and other entities) into categories based on their actions or attributes. In some ways, this approach may be similar to (and partly contains) role and group based similarity, but it may not assume separate relevance and importance values are stored for each cluster. Examples include, but are not limited to, the following: users who reply frequently, who forward frequently, who never delete mails, who send mails to large groups, who receive certain mail volumes, who belong to particular groups, who work in particular departments, etc.; job codes, which have a particular job code parent or type, which are at a certain point in the domain hierarchy, which have a particular retention period, which result in particular external actions, which have certain allowed readers (access rights), etc.; and content, which has a large chain length

[0031] In a particular embodiment of the invention, user groups are each provided with their own user profile. The groups of users can be specified (for example, all women) or determined automatically (for example, all users who access a specific object). A single user can be assigned to any number of groups. The assignment to a group can be

Krug's "User Groups" Are a Cognate Group

Petition

Krug also teaches that “a plurality of typical user profiles,” may be identified using a “clustering method.” EX1008, [0038]. And user groups can be identified based on “the presence of certain properties of the user,” such as gender or access to specific objects (i.e., role or group-based determinations). *Id.*, [0031]. Krug also discloses collaborative filtering (§VI.C.4). Therefore, Krug discloses function (1) of the “*second measurement module*” under Petitioner’s construction. *Supra* §V.A; EX1004, ¶¶509-511.

Krug's "User Groups" Are Cognate Groups *and* "Recipient[s]"

'217 Patent

Krug

Claim 1[f]

identify at least one other of the plurality of users that is a recipient of the piece of electronic content and that is cognate to the user, and

compare a user to a set of similar or cognate users rather than to the global population. In regard to how such similarity or identification of the cognate group is determined, one or more of the following approaches may be used: role or group based; collaborative filtering; fingerprinting; cluster models; search-based methods; frequency analysis; and importance value correlation. Each of these different approaches, which may be used singly or in any combination, will now be described in turn.

[0031] In a particular embodiment of the invention, user groups are each provided with their own user profile. The groups of users can be specified (for example, all women) or determined automatically (for example, all users who access a specific object). A single user can be assigned to any number of groups. The assignment to a group can be initiated by a user himself, i.e., it can be done explicitly, for example, by logging in to a group or community. Furthermore, the assignment can also be made implicitly, e.g., based on the presence of certain properties of the user. The profile of a user group is expediently created on the basis of the user profiles of the group members, in particular, as an average user profile of the group members. For a search query, a user can select

Krug's "User Groups" Are Cognate Groups *and* "Recipient[s]"



Houh Decl.

Krug

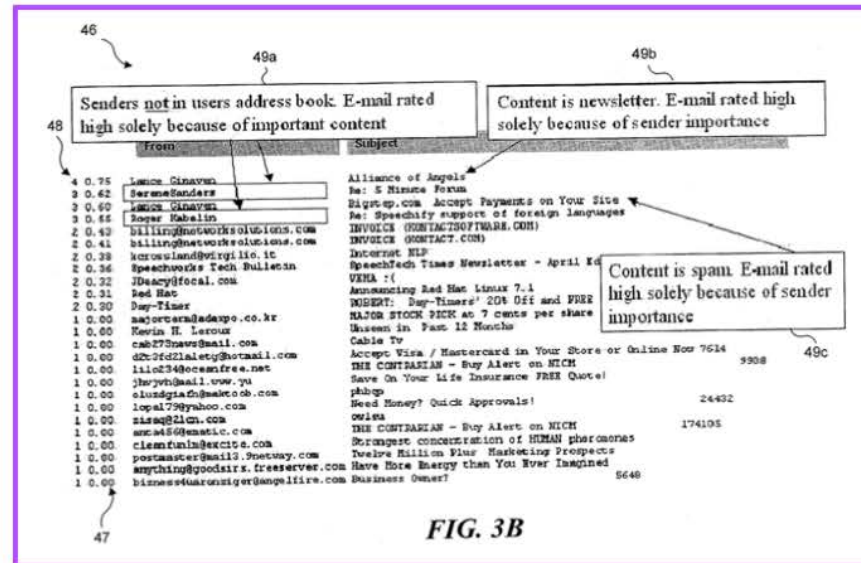
users on a single data item. A POSA would have understood that two users who interact with the same item offer the greatest indicator of relevance for that data item—i.e., data about a specific data item is more valuable than data about a different data item.

[0031] In a particular embodiment of the invention, user groups are each provided with their own user profile. The groups of users can be specified (for example, all women) or determined automatically (for example, all users who access a specific object). A single user can be assigned to any number of groups. The assignment to a group can be initiated by a user himself, i.e., it can be done explicitly, for example, by logging in to a group or community. Furthermore, the assignment can also be made implicitly, e.g., based on the presence of certain properties of the user. The profile of a user group is expediently created on the basis of the user profiles of the group members, in particular, as an average user profile of the group members. For a search query, a user can select

Krug Ranks Kircher's Emails

Kircher & Petition

Patent Owner's Response



Second, even if Petitioner's experts were correct that Krug's "user groups" can be made up of "recipients" of the same content (which – because Krug's users do not "receive" any "sent" content – he is not (see EX2029, ¶170 & *supra* at 21-22)), nothing in Krug teaches or suggests the **desirability** of "identifying" a second user that received the same piece of content as the first user. Instead, in Krug, the

includes the numerical value assigned to each email." *Id.*, [0050]-[0051]. Krug's "comparison value" would have been combined with Kircher's "ranking number" (column 48) and "numerical value" (column 47) (purple), such that Kircher's emails would have been ranked (in-part) using Krug's comparison value. Kircher/Krug discloses "a relevance score of a piece of electronic content." EX1004, ¶¶454-455.

Undisputed: Kircher's Emails Have a "Sender"



Kircher & Kahn Depo.

Patent Owner's Response

[0001] This invention relates generally to communications over a network, and more particularly, to a method and apparatus for processing **electronic messages** conveyed over a network, based on predefined criteria such as the **sender of the message** and the content of the message, where the recipient's response to and handling of current messages affects the automated processing of future messages.

Q. Can you turn to Figure 3B of Kircher? What is shown in Figure 3B?

A. So **some e-mail messages and the sender lists** and then the ranking, those type of things, right? It's a ranking score.

...

A. Yes, that's correct. I. And there's a column there, "from," right?

Q. **That says "from"?**

A. **Okay. I saw it, yeah.**

Q. **And you understand that these are e-mails that were sent from a sender?**

A. **That's correct.**

Second, even if Petitioner's experts were correct that Krug's "user groups" can be made up of "*recipients*" of the same content (which – because Krug's users do not "receive" any "sent" content – he is not (*see EX2029, ¶170 & supra* at 21-22)), nothing in Krug teaches or suggests the desirability of "*identifying*" a second user that received the same piece of content as the first user. *Instead, in Krug, the*

Krug Teaches Desirability of User Groups

Krug

Patent Owner's Response

[0028] A further influencing variable that can be used to influence the importance of an object is the so-called action equivalence. Action equivalence increases the importance of objects with high usage intensity. The usage identity of an individual user or any user group is taken into account. The influence of the action equivalence on the relevance weights of the objects makes it possible to increase the relevance of user-specific or group-specific favorites (i.e., objects with high usage intensity).

[0032] Advantageously, user groups can also be used to determine the action equivalence. By selecting a corresponding reference group, the objects that have the highest usage intensity in the reference group can be determined. For example, by selecting the group for auto mechanics, the collective favorites of this group can be given special consideration when determining the relevance weights of the objects.

There are numerous problems with this analysis. As an initial matter, nothing in Krug teaches or suggests the desirability of “identify[ing] at least one other of the plurality of users ... that is cognate to the user” – i.e., the desirability of “identify[ing]” a second “user” that is “cognate to the user” that is doing the

Krug Teaches Math to Identify Users

Krug

Patent Owner's Response

[0065] Based on the usage data determined in the usage analysis, the usage intensity of an object by an individual user or by a group of users or the entire user population can be determined. 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 relevance criteria.

[0066] The m -th user interaction can be described as follows:

$A_m = (c_m, k_m, t_m, B_m)$, where:

C_m - is the user index from the set of users for the m -th user interaction;

k_m - is the object index from the set of objects for the m -th user interaction;

t_m - represents the active interaction time at the m -th user interaction; and

B_m - is the user rating at the m -th user interaction.

[0067] In general:

$U = \{U^{(1)}, \dots, U^{(p)}\}$ is the set of users;

$O = \{C^{(1)}, \dots, O^{(q)}\}$ is the set of objects; and

electronic content” as the first user and “*is cognate to the [first] user,*” Moreover, Krug does not teach or suggest the active step of “*identify[ing]*,” including that Krug does not teach the desirability of ““*identify[ing]*” a second user and that Krug does not teach any math to “*identify*” a second user with both of these features.

Houh Explains: Krug Identifies Recipients



Houh Decl.

505. Krug describes how “the intrinsic value of an object can be determined separately for each user, **for a group of users, or for all users collectively for a specific object.**” *Id.*, [0027], emphasis added. Krug explains that “user groups” (*i.e.*, a cognate group) can each be “provided with their own user profile” such that the entire cognate group has a profile. *Id.*, [0031]. For example, “[t]he groups of users can be specified (for example, all women) or determined automatically (for example, **all users who access a specific object**).” *Id.* Therefore, a POSA would understand that in the combination “user groups” are a “*plurality of users that is a recipient of the piece of electronic content.*”

506. Moreover, Krug explains that “[t]he assignment to a group can be initiated by a user himself, *i.e.*, it can be done explicitly, for example, by logging in to a group or community.” *Id.*, [0031]. Therefore, a POSA would understand that Krug discloses identifying a “cognate group” by “direct input by a user.” EX1001, 25:65-26:10. Therefore, for at least this reason Krug discloses “*identify[ing] at least one other of the plurality of users ... that is cognate to the user*” under both the plain and ordinary meaning and Petitioner’s construction.

Patent Owner’s Sur-Reply

Petitioner disputes (Reply,17) Patent Owner’s statement that Petitioner’s expert did not address the requirement to “*identify*” “*a recipient*” (Resp.30-31). In support, however, Petitioner quotes a passage (EX1004,¶506) that does not discuss “*identify[ing]*” “*a recipient*” at all. Similarly, none of the other paragraphs that Petitioner cites show that Krug “*identifies*” “*a recipient.*” See EX1004,¶¶501-502 & 506-509 (analyzing “*cognate*” limitation), ¶¶500 & 511 (introduction & conclusion sentences containing no evidence or analysis). Thus, Petitioner has **no evidence** to support its position that it would have been obvious to “*identify*” “*a recipient*” of the piece of content being scored.

Roadmap

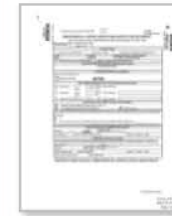
- 1) Claim Construction
- 2) Dr. Khan's Testimony
- 3) Grounds 4–5
- 4) Dumais Is Prior Art**
- 5) Grounds 1–3
- 6) Secondary Considerations

Dumais Filed 8 Months Before '217 Patent

June 29, 2005
Dumais Filed



Jan. 13, 2006
Provisional Application



EX1006; EX1003; See Petition at 6, 21.

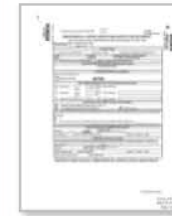
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 101

Critical Period Is 198 Days

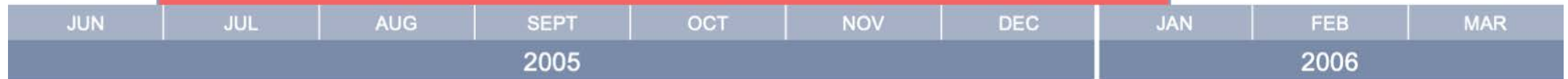
June 29, 2005
Dumais Filed



Jan. 13, 2006
Provisional Application



Critical period – 198 days



EX1006; EX1003; See Petition at 6, 21, Reply at 24.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at **102**

157 Days of Unexplained Gaps

June 29, 2005
Dumais Filed



Jan. 13, 2006
Provisional Application



Critical period – 198 days

48-day
gap

25-day
gap

25-day
gap

59-day
gap

JUN

JUL

AUG

SEPT

OCT

NOV

DEC

JAN

FEB

MAR

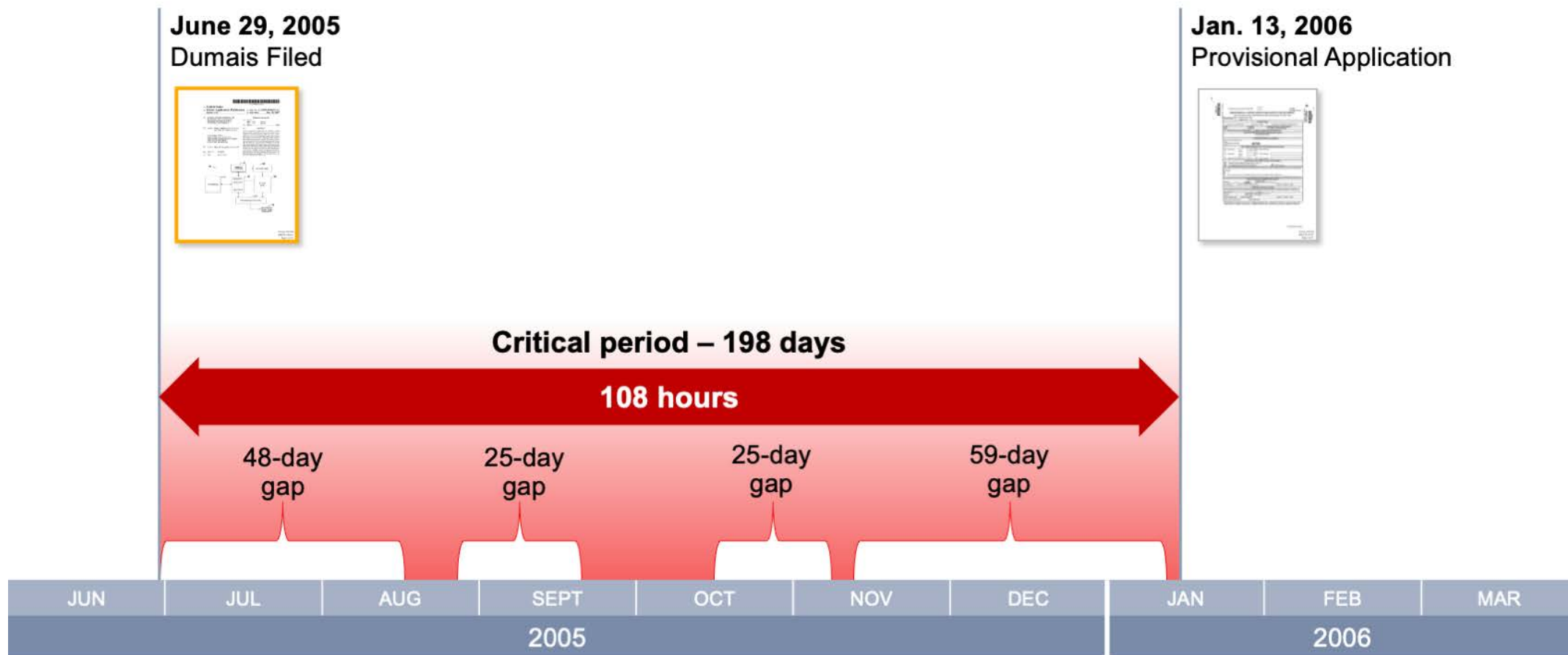
2005

2006

EX1006; EX1003; EX1068, 1–4; See Petition at 6, 21; Reply at 25.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at **103**

108 Hours Of Work Over 198 Day Period



EX1006; EX1003; EX1068, 1–4; See Petition at 6, 21; Reply at 24-25.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at **104**

Roadmap

1) Claim Construction

2) Dr. Khan's Testimony

3) Grounds 4–5

4) Dumais Is Prior Art

5) Grounds 1–3

6) Secondary Considerations

- Sterling's Conception Evidence Is Uncorroborated and Unreliable
- Named Inventors Did Not Conceive Claims
 - Work of Unnamed Inventors Undercuts Purported Conception
 - Conception Documents Do Not Disclose the "Identifying..." Limitation (Elements 1[f]/6[d]/7[b])
 - The "Ideas" in the Conception Documents Are Incomplete
- Named Inventors Were Not Diligent

Conception Documents Are Do Not Corroborate Earlier Invention

Conception Documents



Claim Chart Prepared by Sterling's Counsel for This IPR

Claim Chart for BlueSpace Mail Documents (EX2004 & EX2006)	
'217 Patent Claims	
'217 Patent Claim Limitation	Conception documents
1. A computer-implemented system for determining a relevance score of a piece of electronic content sent from a sender to a user,	<p>The BlueSpace mail documents reflect that, by at least June 7, 2005, Justin and Paul Marston had conceived of a computer-implemented system for determining a relevance score of a piece of electronic content sent from a sender to a user.</p> <p>The documentation between September 4, 2004, and June 7, 2005, describes a "computer-implemented system": "SMTP treats each email as a string of text similar to a postcard or telegram that must be passed <u>between computers</u> until it reaches its desired recipients." EX2004, at 5 (emphasis added).</p> <p>The documentation between September 4, 2004, and June 7, 2005, describes "a piece of electronic content sent from a sender to a user." EX2004, at 14 (referring to "both <u>sent</u> and <u>received</u>" "content" (emphasis added)); <i>id.</i> at 21 (referring to "the <u>sender</u> and each <u>recipient</u> of the TransMail" (emphasis added)).</p> <p>The documentation between September 4, 2004, and June 7, 2005, describes determining a "relevance score of a piece of electronic content":</p> <ul style="list-style-type: none">• "BlueSpace uses a multi-dimensional <u>relevance</u> system, that <u>rates</u> the <u>importance</u> of each <u>piece of content</u> ..." EX2004, at 4.• "<u>Each piece of content</u> (submessage) can be presented to the user along with a slider that indicates its current <u>relevance score</u>." EX2004, at 17 (emphasis added).
the relevance score determined with respect to the user,	<p>The BlueSpace mail documents reflect that, by at least June 7, 2005, Justin and Paul Marston had conceived of the relevance score being determined with respect to the user.</p> <p>The documentation between September 4, 2004, and June 7, 2005, describes that the relevance score is determined with respect to the user:</p> <ul style="list-style-type: none">• "[T]he <u>end user</u> [is] able to affect <u>relevance</u> directly <u>for their own inbox</u>." EX2004, at 17 (emphasis added).• "Importance ... is stored <u>with respect to each user</u>." <i>Id.</i> (emphasis added).

EX2004; EX2006; EX2014; See Reply 19–20, Pet. Mot. to Exclude 5–8.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 106

Conception Arguments Rely on Inventor Testimony Alone



Justin Marston Decl. (2nd Supp.)

SECOND SUPPLEMENTAL DECLARATION OF JUSTIN MARSTON

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

X CORPORATION
Petitioner,

v.
STERLING COMPUTERS CORPORATION
Patent Owner.

Case IPR2025-00299
U.S. Patent No. 7,716,217

SECOND SUPPLEMENTAL DECLARATION OF JUSTIN MARSTON

Sterling EX2030
IPR2025-00299
Page 1 of 27

EX2030; EX2031; See Reply 19.



Paul Marston Decl.

DECLARATION OF PAUL MARSTON

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

X CORPORATION
Petitioner,

v.
STERLING COMPUTERS CORPORATION
Patent Owner.

Case IPR2025-00299
U.S. Patent No. 7,716,217

DECLARATION OF PAUL MARSTON

Sterling EX2031
IPR2025-00299
Page 1 of 16

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 107

X. Corp EX1074
X. Corp v. Sterling Computers Corp.
IPR2025-00299
Page 107 of 175

Conception Evidence Is Uncorroborated

Apator Miitors ApS v. Kamstrup A/S

Patent Owner's Response

It is well established, however, that when a party seeks to prove conception through an inventor's testimony the party must proffer evidence, “in addition to [the inventor's] own statements and documents,” corroborating the inventor's testimony.”...Even under the “rule of reason” analysis, however, the “evidence of corroboration must not depend solely on the inventor himself.”

Apator Miitors ApS v. Kamstrup A/S, 887 F.3d 1293, 1295 (Fed. Cir. 2018)

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, EX2004 and EX2006 are draft documents prepared by the inventors 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. EX2014. Additional Exhibits cited in the first declaration of Justin Marston

No evidence outside the inventors

No Indication Marstons Authored Conception Docs



The evidence proffered by Mr. Drachmann is stuck in a catch-22 of corroboration: Apator attempts to corroborate Mr. Drachmann's testimony with the emails and the drawings, but the emails and drawings can only provide that corroboration with help from Mr. Drachmann's testimony.... Mr. Drachmann's unwitnessed emails and drawings, alone, cannot corroborate his testimony of conception.

Apator Miitors ApS v. Kamstrup A/S, 887 F.3d 1293, 1296, 1297 (Fed. Cir. 2018)

Reply at 19–20.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 109

No Indication Marstons Authored Conception Docs

Sterling Metadata Table

Exhibit	File Name	Create Date	Author	Last Modify Date	Last Saved by
EX2004	BlueSpace Mail Search.doc	8/4/2004	.	9/2/2004	Bal

Metadata Extracted from Native of EX2004
(produced natively as STERLING_XIPR_0000001)

STERLING_XIPR_0000001 Properties

General Security Custom Details Previous Versions

Property	Value
Origin	.
Authors	.
Last saved by	Bal
Revision number	88
Version number	
Program name	Microsoft Office Word
Company	
Manager	
Content created	8/4/2004 1:48 PM
Date last saved	9/2/2004 1:23 PM
Last printed	8/8/2004 7:30 AM
Total editing time	154:56:00

STERLING_XIPR_0000001 Properties

General Security Custom Details Previous Versions

Property	Value
Content	
Content status	
Content type	application/msword
Pages	1
Word count	9169
Character count	52266
Line count	435
Paragraph count	122
Template	bluespace-specification.dot
Scale	No
Links dirty?	No
Language	
File	
Name	STERLING_XIPR_0000001.DOC
Type	Microsoft Word 97 - 2003 Document

EX2006	BlueSpace Mail Relevance.doc	4/18/2005	.	6/7/2005	"n/a"
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Metadata Extracted from Native of EX2006
(produced natively as STERLING_XIPR_0000043)

STERLING_XIPR_0000043 Properties

General Security Custom Details Previous Versions

Property	Value
Origin	.
Authors	.
Last saved by	n/a
Revision number	25
Version number	
Program name	Microsoft Office Word
Company	
Manager	
Content created	4/18/2005 2:56 PM
Date last saved	6/7/2005 4:16 PM
Last printed	8/8/2004 8:30 AM
Total editing time	134:28:00

STERLING_XIPR_0000043 Properties

General Security Custom Details Previous Versions

Property	Value
Content	
Content status	
Content type	application/msword
Pages	1
Word count	18411
Character count	104948
Line count	874
Paragraph count	246
Template	bluespace-specification.dot
Scale	No
Links dirty?	No
Language	
File	
Name	STERLING_XIPR_0000043.DOC
Type	Microsoft Word 97 - 2003 Document

EX1068 at 1; EX1069; EX1070; See Reply at 19.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 110

No Indication Marstons Authored Conception Docs

Sterling Metadata Table

EX1068: Metadata for Sterling's "conception evidence"

Table 1: Metadata of documents prior to the critical period (before Dumais reference of June 2005)

Exhibit	File Name	Create Date	Author	Last Modify Date	Last Saved by
EX2004	BlueSpace Mail Search.doc	8/4/2004	.	9/2/2004	Bal
EX2047	TransmailRelevance Formula1.doc	8/10/2004	Morton-Jones	9/9/2004	Morton-Jones
EX2052 ¹	Notes on Search Document	9/10/2004	Rick Turner	9/10/2004	Rick Turner
EX2048	Some Comments on document.doc	9/13/2004	Rick Turner	9/13/2004	Marston
EX2053	Changes to document_.doc	9/14/2004	Marston	9/15/2004	Marston
EX2054	BlueSpaceMailSearchfor JamesB.doc	9/14/2004	.	9/15/2004	Marston
EX2055	Importance 1.1.1.doc	9/18/2004	Marston	9/18/2004	Marston
EX2009	Importance 1.1.1B.doc	9/18/2004	Marston	9/18/2004	Marston
EX2049	Pauls Formula Section Sept 17.doc	9/18/2004	.	9/20/2004	Marston
EX2005	Pauls Formula for Justins Business.doc	9/20/2004	.	5/12/2005	Marston
EX2050	TimComments15-5-2005.doc	5/13/2005	Tim Couper	5/17/2005	Marston
EX2051	Some Thoughts on the TransMail Relevance.doc	5/17/2005	Marston	5/17/2005	Marston
EX2006	BlueSpace Mail Relevance.doc	4/18/2005	.	6/7/2005	"n/a"

Table 2: Metadata of documents during the critical period (after Dumais reference of June 2005)

Exhibit	File Name	Create Date	Author	Last Modify Date	Last Saved by
58-Day Gap In Activity					
EX2007	BlueSpaceMailRelevance finaletedited.doc	8/16/2005	.	8/16/2005	Marston
EX2008	BlueSpace Mail Relevanceedited2.doc	8/17/2005	.	8/17/2005	Marston
EX2056	formula.doc	8/17/2005	Jon Fernyhough	8/17/2005	Jon Fernyhough
EX2057	SoftwareImplementation.doc	8/18/2005	Jon Fernyhough	8/18/2005	Jon Fernyhough
EX2058	SoftwareImplementation Comment.doc	8/19/2005	Jon Fernyhough	8/19/2005	Marston
EX2037	Frequency analysis stats.xls	8/21/2005	Justin Marston	8/21/2005	Justin Marston
EX2073	BlueSpaceMailRelevance final.doc	8/4/2005	.	8/21/2005	Justin Marston
EX2059	BlueSpaceRelevancePM 250805.doc	8/25/2005	.	8/25/2005	Marston
25-Day Gap In Activity					
EX2032	BlueSpace Mail Relevance JM 19,09,05.doc	9/19/2005	.	9/21/2005	Justin Marston
EX2060	BlueSpaceMailRelevancePM 250905.doc	9/25/2005	.	9/25/2005	Marston
EX2061	BlueSpaceMailRelevancePM 270905c.doc	9/27/2005	.	9/28/2005	Marston
EX2062	BlueSpaceMailRelevancePM 280905.doc	9/28/2005	.	9/28/2005	Marston
EX2033	BlueSpace Mail Relevance 02,10,05.doc	10/2/2005	.	10/2/2005	Justin Marston
EX2010	BlueSpace Mail Relevance 02,10,05_jf.doc	10/3/2005	.	10/7/2005	Jon Fernyhough
EX2011	BlueSpace Mail Relevance 02,10,05_jf.doc	10/3/2005	.	10/7/2005	Marston

EX1068 at 1-2; See Reply at 19.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 111

Exhibit 2014 Is Not Independent Contemporaneous Evidence

Claim Chart Prepared by Sterling's Counsel for This IPR

Opposition to Motion to Exclude

Claim Chart for BlueSpace Mail Documents (EX2004 & EX2006)	
217 Patent Claims	
217 Patent Claim Limitation	Conception documents
1. A computer-implemented system for determining a relevance score of a piece of electronic content sent from a sender to a user,	<p>The BlueSpace mail documents reflect that, by at least June 7, 2005, Justin and Paul Marston had conceived of a computer-implemented system for determining a relevance score of a piece of electronic content sent from a sender to a user.</p> <p>The documentation between September 4, 2004, and June 7, 2005, describes a “computer-implemented system”: “SMTP treats each email as a string of text similar to a postcard or telegram that must be passed <u>between computers</u> until it reaches its desired recipients.” EX2004, at 5 (emphasis added).</p> <p>The documentation between September 4, 2004, and June 7, 2005, describes “a piece of electronic content sent from a sender to a user.” EX2004, at 14 (referring to “both <u>sent</u> and <u>received</u>” “content” (emphasis added)); <i>id.</i> at 21 (referring to “the <u>sender</u> and each <u>recipient</u> of the TransMail” (emphasis added)).</p> <p>The documentation between September 4, 2004, and June 7, 2005, describes determining a “relevance score of a piece of electronic content”:</p> <ul style="list-style-type: none">• “BlueSpace uses a multi-dimensional <u>relevance</u> system, that <u>rates</u> the <u>importance</u> of each <u>piece of content</u> ...” EX2004, at 4.• “<u>Each piece of content</u> (submessage) can be presented to the user along with a slider that indicates its current <u>relevance score</u>.” EX2004, at 17 (emphasis added).
the relevance score determined with respect to the user,	<p>The BlueSpace mail documents reflect that, by at least June 7, 2005, Justin and Paul Marston had conceived of the relevance score being determined with respect to the user.</p> <p>The documentation between September 4, 2004, and June 7, 2005, describes that the relevance score is determined with respect to the user:</p> <ul style="list-style-type: none">• “[T]he end user [is] able to affect <u>relevance</u> directly <u>for their own inbox</u>.” EX2004, at 17 (emphasis added).• “Importance ... is stored <u>with respect to each user</u>.” <i>Id.</i> (emphasis added).

II. There Is No Basis for Excluding EX2014.

Petitioner seeks to exclude Exhibit 2014, which is a chart prepared by counsel for Patent Owner. EX2014; EX1050, 11:21-13:1 (EX2014 was a document “that the attorneys prepared based on conversations with me and I’ve reviewed”). Exhibit 2014 summarizes Exhibit Nos. 2004 and 2006, which are drafts of the provisional patent application. Because the two exhibits together consist of nearly 100 pages of technical writing, EX2014 was provided to summarize the voluminous writings in a manner that will be more convenient for the Board. Therefore, it is a proper Rule 1006 compilation. Fed. R. Evid. 1006 (“The court may admit as evidence a summary

EX2014 at 1; PO Opp. to Mot. to Exclude at 4; See Pet. Mot. to Exclude at 7–8.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 112

Sterling's Attorney Argument Is Not Knowledge of POSITA

Claim Chart Prepared by Sterling's Counsel for This IPR

Claim Chart for BlueSpace Mail Documents (EX2004 & EX2006)	
217 Patent Claims	
217 Patent Claim Limitation	Conception documents
1. A computer-implemented system for determining a relevance score of a piece of electronic content sent from a sender to a user,	<p>The BlueSpace mail documents reflect that, by at least June 7, 2005, Justin and Paul Marston had conceived of a computer-implemented system for determining a relevance score of a piece of electronic content sent from a sender to a user.</p> <p>The documentation between September 4, 2004, and June 7, 2005, describes a "computer-implemented system": "SMTP treats each email as a string of text similar to a postcard or telegram that must be passed between computers until it reaches i</p> <p>The documentat a sender to a use (referring to "the</p> <p>The documentat piece of electror</p> <ul style="list-style-type: none">• "BlueSp ...," EX2• "Each p relevanc
the relevance score determined with respect to the user,	<p>The BlueSpace mail documents reflect that, by at least June 7, 2005, Justin and Paul Marston had conceived of the relevance score</p> <p>The documentat with respect to t</p> <ul style="list-style-type: none">• "[The e• "Importa

A skilled artisan would understand from the documentation between September 4, 2004, and June 7, 2005, that a second relevance measurement module coupled to the monitoring module because the documentation describes that data captured through the software/algorithms for monitoring user actions is provided to relevance algorithms: "Each piece of content is audited and managed through its lifecycle in the mail system, and every significant user action is audited. This provides a powerful set of raw data that can be used in relevance algorithms." EX2004, at 4; EX2006, at 5.

The documentation between September 4, 2004, and June 7, 2005, describes algorithms. *E.g.*, EX2004, at 28-32 ("8. Algorithms."); EX2006, at 52-56 ("9. Algorithms."). A skilled artisan would understand that these algorithms are implemented using software – i.e., "computer program modules" stored on "a computer-readable storage medium" and "configured to execute on the computer processor." A skilled artisan would understand that "computer program modules" is software.

Dr. Khan Did Not Review Conception Documents

Claim Chart Prepared by Sterling's Counsel for This IPR

Opposition to Motion to Exclude

A skilled artisan would understand from the documentation between September 4, 2004, and June 7, 2005, that a second relevance measurement module coupled to the monitoring module because the documentation describes that data captured through the software/algorithms for monitoring user actions is provided to relevance algorithms. “Each piece of content is audited and managed through its lifecycle in the mail system, and every significant user action is audited. This provides a powerful set of raw data that can be used in relevance algorithms.” EX2004, at 4; EX2006, at 5.

The documentation between September 4, 2004, and June 7, 2005, describes algorithms. *E.g.*, EX2004, at 28-32 (“8. Algorithms.”); EX2006, at 52-56 (“9. Algorithms.”). A skilled artisan would understand that these algorithms are implemented using software – i.e., “computer program modules” stored on “a computer-readable storage medium” and “configured to execute on the computer processor.” A skilled artisan would understand that “computer program modules” is software.

helpful opinion”). With respect to Dr. Khan, although he did not review Exhibit Nos. 2004 or 2006, he did testify that a POSITA would understand that the “modules” used to determine the relevance score are software, such as program or code (*e.g.*, EX2029, ¶28), and he testified at length about the inventive math/algorithms used to determine the relevance score. *E.g.*, *id.* ¶88-96; *see also id.* ¶33 (“A POSA would

Sterling's Shifting Positions



Justin Marston Depo.

Opposition to Motion to Exclude

Q. Okay. This has already been marked as **Exhibit 2014**. (Whereupon Exhibit Number 2014 was shown.) Do you recognize this document?

A. Yes.

Q. Did you prepare this document?

A. **Yes, I prepared this** with assistance from—
from counsel, but I—yes.

Petitioner asserts that Patent Owner has had “shifting positions” regarding how EX2014 was prepared because, it asserts, Justin Marston claimed he “prepared [EX2014] with assistance ... from counsel,” but Patent Owner “claimed that Justin Marston only ‘helped prepare’” the exhibit. Paper 44, at 6 (citing Paper 38 at 21 & EX1050, 200:18-201:6). Those two statements are not contradictory: both statements reflect that preparing EX2014 was a joint effort between counsel and inventor Justin Marston. **Justin Marston never testified that he alone prepared it.**

Marstons Do Not Have Necessary Level of Skill in Software Field



Justin Marston Depo.

Q. And so while you have some background in computer programming, you don't have a degree in computer programming?

A. Correct.

Q. And you don't have a degree in electrical engineering?

A. No. I have a degree in chemical—I have a degree and a Master's degree in chemistry. It's a—it's a unified course.



Paul Marston Depo.

Q. And so you're not a computer programmer?

A. I am not. Well, I mean I did a very small amount of early programing, but, no, I'm not a computer programmer.

Exhibit 2014 Is Not FRE 1006 Summary

Federal Rules of Evidence

United States v. Taylor



Rule 1006. Summaries to Prove Content

(a) Summaries of Voluminous Materials Admissible as Evidence. The court may admit as evidence a summary, chart, or calculation offered to prove the content of **voluminous** **admissible writings**, recordings, or photographs that cannot be conveniently examined in court, whether or not they have been introduced into evidence.

(b) Procedures. **The proponent must make the underlying originals** or duplicates available for examination or copying, or both, by other parties at a reasonable time and place. And the court may order the proponent to produce them in court.

A necessary precondition to the admission of summary charts is that they accurately reflect the underlying records or testimony, **particularly when they are based, in part, on the government's factual assumptions.** In this case, the organizational chart did not accurately reflect the underlying testimony....The admission of the chart into evidence was error.

United States v. Taylor, 210 F.3d 311, 315–16 (5th Cir. 2000)

Sterling's Brief Violates 37 C.F.R. § 42.6(a)(3) and § 42.22



Once Parus chose to submit a response and assume that burden, it bore the responsibilities that came with it—including submitting a response that complied with the rules and regulations of the USPTO. And that includes not incorporating material by reference pursuant to 37 C.F.R. § 42.6(a)(3) and the inclusion of “a detailed explanation of the significance of the evidence including material facts” pursuant to 37 C.F.R. § 42.22.... The burden of production cannot be met simply by throwing mountains of evidence at the Board without explanation or identification of the relevant portions of that evidence. One cannot reasonably expect the Board to sift through hundreds of documents, thousands of pages, to find the relevant facts.

Parus Holdings, Inc. v. Google LLC, 70 F.4th 1365, 1371 (Fed. Cir. 2023)

Reply at 18.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 118

Sterling's Brief Violates 37 C.F.R. § 42.6(a)(3) and § 42.22

Patent Owner's Response

reasonable diligence, Patent Owner has done precisely that: Patent Owner has provided additional evidence that both corroborates Justin Marston's testimony and shows reasonable diligence, including testimony from both Justin Marston and Paul Marston (the two inventors of the '217 Patent) and numerous documents corroborating their testimony that, during the critical period, they were refining the formulas to implement the BlueSpace relevance model.⁶ EX2030 (J. Marston declaration); EX2031 (P. Marston declaration); EX2032 through EX2078 (corroborating documentation). In addition, Patent Owner submitted evidence –

2073 pages

96 pages

36 pages

517 pages

160 pages

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, EX2004 and EX2006 are draft documents prepared by the inventors 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. EX2014. Additional Exhibits cited in the first 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-EX2013. Accordingly, the inventors of the '217 Patent conceived of their invention prior to June 7, 2005.

Roadmap

1) Claim Construction

2) Dr. Khan's Testimony

3) Grounds 4–5

4) Dumais Is Prior Art

5) Grounds 1–3

6) Secondary Considerations

- Sterling's Conception Evidence Is Uncorroborated
- **Named Inventors Did Not Conceive Claims**
 - Work of Unnamed Inventors Undercuts Purported Conception
 - Conception Documents Do Not Disclose the "Identifying..." Limitation (Elements 1[f]/6[d]/7[b])
 - The "Ideas" in the Conception Documents Are Incomplete
- Named Inventors Were Not Diligent

Claims Directed to Software

'217 Patent

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 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 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.

6. A computer program product 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-program product having a computer-readable storage medium having computer program instructions encoded thereon comprising:

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

6. A computer program product 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-program product having a computer-readable storage medium having computer program instructions encoded thereon comprising:

a monitoring module configured to track actions by a plurality of users associated with an application for managing electronic content;
a first relevance measure of relevance of the piece of electronic content 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.

Fernyhough Was BlueSpace's "Chief Coder"

Sterling Metadata Table

Paul Marston Depo.



Table 2: Metadata of documents **during** the critical period (after Dumais reference of June 2005)

Exhibit	File Name	Create Date	Author	Last Modify Date	Last Saved by
58-Day Gap In Activity					
EX2007	BlueSpaceMailRelevance finaledited.doc	8/16/2005	.	8/16/2005	Marston
EX2008	BlueSpace Mail Relevancedited2.doc	8/17/2005	.	8/17/2005	Marston
EX2056	formula.doc	8/17/2005	Jon Fernyhough	8/17/2005	Jon Fernyhough
EX2057	SoftwareImplementation.doc	8/18/2005	Jon Fernyhough	8/18/2005	Jon Fernyhough
EX2058	SoftwareImplementation Comment.doc	8/19/2005	Jon Fernyhough	8/19/2005	Marston
EX2037	Frequency analysis stats.xls	8/21/2005	Justin Marston	8/21/2005	Justin Marston
EX2073	BlueSpaceMailRelevance final.doc	8/4/2005	.	8/21/2005	Justin Marston
EX2059	BlueSpaceRelevancePM 250805.doc	8/25/2005	.	8/25/2005	Marston
25-Day Gap In Activity					
EX2032	BlueSpace Mail Relevance JM 19,09,05.doc	9/19/2005	.	9/21/2005	Justin Marston
EX2060	BlueSpaceMailRelevancePM 250905.doc	9/25/2005	.	9/25/2005	Marston
EX2061	BlueSpaceMailRelevancePM 270905c.doc	9/27/2005	.	9/28/2005	Marston
EX2062	BlueSpaceMailRelevancePM 280905.doc	9/28/2005	.	9/28/2005	Marston
EX2033	BlueSpace Mail Relevance 02,10,05.doc	10/2/2005	.	10/2/2005	Justin Marston
EX2010	BlueSpace Mail Relevance 02,10,05_jf.doc	10/3/2005	.	10/7/2005	Jon Fernyhough
EX2011	BlueSpace Mail Relevance 02,10,05_jf.doc	10/3/2005	.	10/7/2005	Marston

Q. So Mr. Fernyhough was involved in the coding work at BlueSpace?

A. I understand from Justin that he was one of his chief coders, yes. ...

EX1068 at 2; EX1064 at 38:15–18; See Reply at 21–22.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 122

Jon Fernyhough Built Computer Program



Paul Marston Depo.



Justin Marston Depo.

Q. So Mr. Fernyhough was involved in the coding work at BlueSpace?

A. Yes, he was.

Q. And so he would have been focused on the software implementation side of things?

A. I understand it, yes. He was a—he was either a coder or chief coder in Justin's company.

Q. So then Jon Fernyhough was focusing on taking the mathematical concepts and turning them into a computer program?

A. Yeah.

Q. And the monitoring module is implemented using code?

A. Yes.

Q. But you didn't build the code used for Trans Mail?

A. That's correct.

Q. Yeah, or the software implementations to implement the relevance system?

A. Correct.

Q. Okay. And so while you have some background in computer programming, you don't have a degree in computer programming?

A. Correct.

Q. And you don't have a degree in electrical engineering?

A. No. I have a degree in chemical – I have a degree and a Master's degree in chemistry. It's a – it's a unified course.

Q. So you didn't write the source code for the BlueSpace products?

A. Correct.

Conception Docs Reflect Jon Fernyhough's Contributions



Paul Marston Depo.

BlueSpace Mail Relevance

Q. Okay. And so just one question. This jfpm2, that pm, does that refer to you?

A. Well, I would imagine so. I think jf must be Jon Fernyhough, and pm must be.

Q. Okay.

A. Yeah.

Q. All right. So if we go up to, for example, page 7—let me get up there. Let me zoom into this comment so that you can see it on the screen. So jf in this document would be Jon Fernyhough?

A. Yeah, I would think so.

This does not only apply to search, however, but also helps the user to get better at 'email browsing'. Many users in corporations are now at the sensible limits of information exposure through email, receiving up to 500 emails each day. BlueSpace email-TransMail relevance is designed to help deal with this problem.

Commented [JF1]: Previously used BlueSpace Mail Relevance (rather than email). Agree – surely it should be TansMail relevance?

2. Mail data and relevance: Scenarios illustrating how this data can affect e.g. search relevance.

3. Collaborative mail data and relevance: Examples in which the relevance of historical and future content in a mail thread helps to determine the relevance of the content in question.

Commented [JF7]: Affect what? "relevance to a specific user"? Search relevance is one type of relevance to a specific user, because it is a search it has to be user initiated and therefore user-specific.

• Users' Actions: Users' actions are the ways users interact with the BlueSpace system, e.g. reading mails, replying to mails and changing

Commented [JF6]: Rephrase? Each time a user interacts with the BlueSpace system an action is performed, e.g. etc. No, this phraseology makes it sound as though it is concurrent rather than definitional. I prefer the original wording.

The date sub-phrase requires further user interaction to specify the dates, which the user has already carried out using the associated calendar buttons. Each calendar button spawns a DHTML calendar that allows the user to specify a date. Note that date formatting is a user preference determined globally across the application via the "Personal Settings" tab.

Commented [JF15]: Why DHTML – why not just say calendar popup? What if this was through the Outlook interface?

Conception Docs Reflect Jon Fernyhough's Contributions



Paul Marston Depo.

Comments to Jon and Justin 07/10/05

- A. Sure. Which one is here? 2063.
Yeah, I've got it.
- Q. Okay. So do you see the name of this document you're discussing here is "Comments to Jon and Justin"?
- A. Correct. 07/10/05.
- Q. At this point in time, you were still working with Jon and Justin to develop some of the concepts for the provisional application?
- A. That's correct.

Comments to Jon and Justin 07/10/05

You have both suggested to me that the local importance values should feed into the IRCs. This is mistaken as I will now explain.

The IRCs are defined as follows:

An IRC value is a relevance score for a piece of content respective to a given individual user, and is based purely on the actions of that user. [Note: the "individual" could be a post or a literal individual person, or some combination.]

- Q. So Exhibit 2071 is this document "Comments to Justin and Jon, October 15th. doc"?
...
- Q. And so this is a letter from you to Jon and Justin?
- A. Yeah. I would have copied him in on anything. I mean he wouldn't have been in on the conversation.

Hi Jon & Justin

Just some thoughts after this morning's conversation with Justin about the cognate relevance calculations.

The basic problem is that:

- suppose a mail is sent to 200 people.
- suppose that 20 is the number in a cognate group

To find the global relevance requires data from 200 sources and gives one figure for global relevance of the mail.

EX1064 at 51:20–52:14, 73:18–74:9; EX2063 at 1; EX2071 at 1; See Reply at 21–22.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 125

Roadmap

1) Claim Construction

2) Dr. Khan's Testimony

3) Grounds 4–5

4) Dumais Is Prior Art

5) Grounds 1–3

6) Secondary Considerations

- Sterling's Conception Evidence Is Uncorroborated
- **Named Inventors Did Not Conceive Claims**
 - Work of Unnamed Inventors Undercuts Purported Conception
 - Conception Documents Do Not Disclose the "Identifying..." Limitation (Elements 1[f]/6[d]/7[b])
 - The "Ideas" in the Conception Documents Are Incomplete
- Named Inventors Were Not Diligent

Conception Documents Do Not Disclose “Identifying...” Limitation

Claim Chart Prepared by Sterling’s Counsel for This IPR

<p>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</p>	<p>The BlueSpace mail documents reflect that, by at least June 7, 2005, Justin and Paul Marston had conceived of 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 below.</p> <p>The documentation between September 4, 2004, and June 7, 2005, describes identifying 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:</p> <ul style="list-style-type: none">• “Mail actions collaborative relevance relies on the actions of other users to determine the relevance of content in a given user’s folders – both sent and received.” EX2004, at 15 (emphasis added).• “BlueSpace uses a multi-dimensional relevance system, that rates the importance of each piece of content based on the following criteria: ...2. User collaborative actions – what did other users do with the mail? Again, their actions indicate their views on the content’s importance.” EX2004, at 4 (emphasis added).• “Mail actions collaborative relevance – scenarios involving other users’ actions to determine content relevance.” EX2004, at 13.• “In the following scenarios, other users’ actions can be used to help determine the relevance of content to a given user: ... If a user sends a TransMail to a group of users, and most reply to it, forward it or copy it to custom folders, it is more likely to be relevant than if they all delete it immediately.... If the vast majority of the users in a given department read a piece of content sent globally, then the content is likely to be relevant to another user in that department.” EX2004, at 15-16.• “Actions – users’ actions determine both relevance and importance values. Both direct user’s actions and collaborative actions (actions of other users on the same content) are taken into account.” EX2006, at 58 (emphasis added).• “For example, one HR employee is generally likely to have similar importance to another one, especially if they are of similar position in a tree structure – e.g. they both work in employee appraisal form processing. There are clearly exceptions to this trend, but in most organizations it is likely to have a positive affect on the initial states of importance.” EX2006, at 22.• “Note that if required, branched structures – such as knowledge taxonomies for contexts, directories for users and Jobcode hierarchies – can be used as a correlative basis for importance on an ongoing basis. Thus for example, an importance change for one user would have a cascading ‘ripple effect’ for similar users.” EX2006, at 22 (emphasis added). <p>The documentation between September 4, 2004, and June 7, 2005, describes algorithms for determining a measure of relevance. EX2004, at 28-32 (“8. Algorithms.”); EX2006, at 52-56 (“9. Algorithms.”). A skilled artisan would understand that these algorithms are implemented using software – i.e., “computer program modules” stored on “a</p>
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EX2014 at 5; See Reply at 22.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 127

Sterling's Examples of "Identifying..."

Claim Chart Prepared by Sterling's Counsel for This IPR

'217 Patent

The documentation between September 4, 2004, and June 7, 2005, describes identifying 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:

- "Mail actions collaborative relevance relies on the actions of other users to determine the relevance of content in a given user's folders – both sent and received." EX2004, at 15 (emphasis added).
- "BlueSpace uses a multi-dimensional relevance system, that rates the importance of each piece of content based on the following criteria: ...2. User collaborative actions – what did other users do with the mail? Again, their actions indicate their views on the content's importance." EX2004, at 4 (emphasis added).
- "Mail actions collaborative relevance – scenarios involving other users' actions to determine content relevance." EX2004, at 13.
- "In the following scenarios, other users' actions can be used to help determine the relevance of content to a given user: ... If a user sends a TransMail to a group of users, and most reply to it, forward it or copy it to custom folders, it is more likely to be relevant than if they all delete it immediately.... If the vast majority of the users in a given department read a piece of content sent globally, then the content is likely to be relevant to another user in that department." EX2004, at 15-16.
- "Actions – users' actions determine both relevance and importance values. Both direct user's actions and collaborative actions (actions of other users on the same content) are taken into account." EX2006, at 58 (emphasis added).
- "For example, one HR employee is generally likely to have similar importance to another one, especially if they are of similar position in a tree structure – e.g. they both work in employee appraisal form processing. There are clearly exceptions to this trend, but in most organizations it is likely to have a positive affect on the initial states of importance." EX2006, at 22.
- "Note that if required, branched structures – such as knowledge taxonomies for contexts, directories for users and Jobcode hierarchies – can be used as a correlative basis for importance on an ongoing basis. Thus for example, an importance change for one user would have a cascading 'ripple effect' for similar users." EX2006, at 22 (emphasis added).

As described above, in a large system, a user may often be interacting with a new entity for the first time. One approach to setting an initial importance value in these cases is to recognize correlated or cognate entities. This may be done, for example, through the use of tree structures. For example, one human resources employee is generally likely to have similar importance as another one, especially if they are of similar position in a tree structure (e.g., they both work in employee appraisal form processing). Further, it is noted that in one or more embodiments, branched structures, such as knowledge taxonomies for contexts and directories for users and job code hierarchies, may be used as a correlative basis for importance on an ongoing basis. Thus, for example, an importance change for one user may have a cascading "ripple effect" for similar users.

EX2014 at 5; EX1001 at 14:45–58; See Reply at 22.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 128

Dr. Khan Disagrees with Sterling's Attorneys

'217 Patent

Khan Depo.



As described above, in a large system, a user may often be interacting with a new entity for the first time. One approach to setting an initial importance value in these cases is to recognize correlated or cognate entities. This may be done, for example, through the use of tree structures. For example, one human resources employee is generally likely to have similar importance as another one, especially if they are of similar position in a tree structure (e.g., they both work in employee appraisal form processing). Further, it is noted that in one or more embodiments, branched structures, such as knowledge taxonomies for contexts and directories for users and job code hierarchies, may be used as a correlative basis for importance on an ongoing basis. Thus, for example, an importance change for one user may have a cascading “ripple effect” for similar users.

Q. So column 14, lines 45 through 53, is **not an example of the entire identifying limitation**, correct?

A. **Correct.**

Q. So column 14, lines 53 through 58, is **not an example of the entire identifying limitation**, correct?

A. **Correct.**

Sterling's Examples of "Identifying..."

Claim Chart Prepared by Sterling's Counsel for This IPR

'217 Patent

The documentation between September 4, 2004, and June 7, 2005, describes identifying 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:

- "Mail actions collaborative relevance relies on the actions of other users to determine the relevance of content in a given user's folders – both sent and received." EX2004, at 15 (emphasis added).
- "BlueSpace uses a multi-dimensional relevance system, that rates the importance of each piece of content based on the following criteria: ... 2. User collaborative actions – what did other users do with the mail? Again, their actions indicate their views on the content's importance." EX2004, at 4 (emphasis added).
- "Mail actions collaborative relevance – scenarios involving other users' actions to determine content relevance." EX2004, at 13.
- "In the following scenarios, other users' actions can be used to help determine the relevance of content to a given user: ... If a user sends a TransMail to a group of users, and most reply to it, forward it or copy it to custom folders, it is more likely to be relevant than if they all delete it immediately.... If the vast majority of the users in a given department read a piece of content sent globally, then the content is likely to be relevant to another user in that department." EX2004, at 15-16.
- "Actions – users' actions determine both relevance and importance values. Both direct user's actions and collaborative actions (actions of other users on the same content) are taken into account." EX2006, at 58 (emphasis added).
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- "Note that if required, branched structures – such as knowledge taxonomies for contexts, directories for users and Jobcode hierarchies – can be used as a correlative basis for importance on an ongoing basis. Thus for example, an importance change for one user would have a cascading 'ripple effect' for similar users." EX2006, at 22 (emphasis added).

As described above, a cognate group may be an important aspect of determining mail relevance in accordance with one or more embodiments. In some cases, a single global value for relevance of a given piece of content may not be the most appropriate measure of its relevance to a given community. For example, an electronic mail object regarding human resource policies might be most relevant to the human resources department, and of less relevance to other users. To improve the accuracy of the algorithm, it may be better to compare a user to a set of similar or cognate users rather than to the global population. In regard to how such similarity or identification of the cognate group is determined, one or more of the following approaches may be used: role or group based; collaborative filtering; fingerprinting; cluster models; search-based methods; frequency analysis; and importance value correlation. Each of these different approaches, which may be used singly or in any combination, will now be described in turn.

Turning now more specifically to FIG. 6, mail data 80 represents properties of each electronic mail, including the current submessage (single), as well as both history and future submessages (collaborative). Mail data 80 serves as an

EX2014 at 5; EX1001 at 43:20–37, 8:22–25; See Reply at 22.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 130

Dr. Khan Disagrees with Sterling's Attorneys

'217 Patent

Khan Depo.



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Q. You're saying this portion, 43, 30 through 37, doesn't disclose both of those ideas?

A. Yeah, but, however, there is some place where the—

A. My understanding is column 8 under—from row 21 to 25 or—is—the focus is different. They don't talk about collaborative filtering, how does it work here, no.

Q. Okay. So this—

A. They just talk about collaborative messages or something.

Q. So this portion also does not disclose the identifying limitation?

A. Yes.

EX1001 at 43:20–37, 8:22–25; EX1058 at 125:25–126:20; 124:6–125:8.
See Reply at 22, Pet. Opp. to Mot. to Exclude at 12-13.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 131

Sterling's Examples of "Identifying..."

Claim Chart Prepared by Sterling's Counsel for This IPR

'217 Patent

The documentation between September 4, 2004, and June 7, 2005, describes that a measure of relevance can be 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":

- "Mail actions collaborative relevance relies on the actions of other users to determine the relevance of content in a given user's folders – both sent and received." EX2004, at 15 (emphasis added).
- "BlueSpace uses a multi-dimensional relevance system, that rates the importance of each piece of content based on the following criteria: ...2. User collaborative actions – what did other users do with the mail? Again, their actions indicate their views on the content's importance." EX2004, at 4 (emphasis added).
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- "In the following scenarios, other users' actions can be used to help determine the relevance of content to a given user: ... If a user sends a TransMail to a group of users, and most reply to it, forward it or copy it to custom folders, it is more likely to be relevant than if they all delete it immediately.... If the vast majority of the users in a given department read a piece of content sent globally, then the content is likely to be relevant to another user in that department." EX2004, at 15-16.
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another example, if most other recipients copy a given electronic mail object to a custom folder (or reply or forward it) once they have read it, then the recipient in question will probably find the content to be of significant relevance. In yet another case, if a given user is always copying another user on their mail content (e.g., an employee copying their supervisor), then the content is less likely to be of relevance to that other individual. In a further example, if a user sends a submessage to another user, but the recipient does not read the submessage, then this may have an affect on the relevance of the content. In another situation, if the vast majority of the users in a given department read a piece of content sent

Dr. Khan Disagrees with Sterling's Attorneys

'217 Patent

Khan Depo.



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Q. Okay. Let's go to column 12, lines 50 through 59.

A. Line what? 50, column 12?

Q. Yeah, lines 50 through 59. I guess the sentence starts at 48. Can you read that?

A. Sure

Q. So this is not an example of identifying?

A. So that's not the focus here, yeah.

EX1001 at 12:45–56; EX1058 at 126:21–127:1, 128: 11–12;
See Reply at 22, Pet. Opp. to Mot. to Exclude at 12–13.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 133

Roadmap

1) Claim Construction

2) Dr. Khan's Testimony

3) Grounds 4–5

4) Dumais Is Prior Art

5) Grounds 1–3

6) Secondary Considerations

- Sterling's Conception Evidence Is Uncorroborated
- **Named Inventors Did Not Conceive Claims**
 - Work of Unnamed Inventors Undercuts Purported Conception
 - Conception Documents Do Not Disclose the "Identifying..." Limitation (Elements 1[f]/6[d]/7[b])
 - The "Ideas" in the Conception Documents Are Incomplete
- Named Inventors Were Not Diligent

Conception Documents Admit They Are Incomplete

EX2004

EX2006

8.2 Initial Maths

NOTE THAT THIS INITIAL MATHS HAS BEEN DRAFTED WITH A MATHEMATICIAN, BUT IS IN NEED OF SIGNIFICANT CHANGES. IT IS INCLUDED HERE FOR COMPLETION IN THIS CURRENT DRAFT.

8.2.1 Introduction

There are three lists of attributes which could feasibly influence the Transmail's relevance to a receiver user. The three lists are groupings according to mail actions relevance, collaborative relevance and defined importance factors, which I shall label A , B and C respectively. The most obvious starting point is to work with indicator functions, $J(\cdot)$, which are simply "on" or "off", depending on whether the attribute is favourable or not. This is fine for attributes such as:

"If a user receives a TransMail and replies to it, then the content of the original TransMail is likely to be of significant relevance",

but not necessarily for attributes such as:

"If a user has read a given TransMail many times, then it is likely to be of significant relevance to them.",

where a score function may be more appropriate, with a higher score dependent on the number of times opened or read. However this causes problems of relative weighting amongst attributes, and in any case we can create an indicator function by defining a threshold value of number of times opened or read. The third list is different as it deals with importances (see later), and thus must have a continuous scale of values. These importance

functions are called $I(\cdot)$. A working formula for the relevance, $R(T_M)$, of a given transmail, T_M is then:

9.2 Initial Maths

NOTE THAT THIS INITIAL MATHS HAS BEEN DRAFTED WITH A MATHEMATICIAN, BUT IS IN NEED OF SIGNIFICANT CHANGES. IT IS INCLUDED HERE FOR COMPLETION IN THIS CURRENT DRAFT.

9.2.1 Introduction

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Sterling Did Not Meet Burden to Show Apr. 2005 Math Used By Claims

EX2006

EX2007

4/18/2005 (before Dumais)

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where a score function may be more appropriate, with a higher score dependent on the number of times opened or read. However this causes problems of relative weighting amongst attributes, and in any case we can create an indicator function by defining a threshold value of number of times opened or read. The third list is different as it deals with importances (see later), and thus must have a continuous scale of values. These importance functions are called $I(\cdot)$. A working formula for the relevance, $R(T_M)$, of a given transmail, T_M is then:

$$R(T_M) = \frac{1}{3} \left(\frac{1}{W_A} \sum_{j=1}^{n_A} w_j^A J(A_j) + \frac{1}{W_B} \sum_{j=1}^{n_B} w_j^B J(B_j) + \frac{1}{W_C} \sum_{j=1}^{n_C} w_j^C I(C_j) \right)$$

where n_A , n_B and n_C are the number of attributes in each list, w^A , w^B and w^C are weightings associated with each attribute to allow for the possibility that some attributes are deemed of greater intrinsic relevance than others, and W^A , W^B and W^C are the sum of the weightings in each of the three lists. Of course if the weightings are all unity in a list then $W = n$ for that list. This formula assumes that the relative maximum weighting of each list is equal to 1, a sensible option; it may also be sensible to weight each list in the ratio $W_A : W_B : W_C$, in which case the formula would be:

$$R(T_M) = \frac{1}{W} \left(\sum_{j=1}^{n_A} w_j^A J(A_j) + \sum_{j=1}^{n_B} w_j^B J(B_j) + \sum_{j=1}^{n_C} w_j^C I(C_j) \right)$$

where:

$$W = \sum_{j=1}^{n_A} w_j^A + \sum_{j=1}^{n_B} w_j^B + \sum_{j=1}^{n_C} w_j^C$$

the sum of the weight within and across the lists.

8/16/2005 (after Dumais)

9 Mathematical Algorithm Framework

9.1 Introduction

The delivery of the TransMail system of allocating relevance and importance requires the continuous development of a highly complex mathematically based system. Algorithms are required that continually update a set of inter-related values, based on user action, so that everyone's actions affect everyone else. This has some complex implications:

- Each user/post has a different individual set of importance and relevance criteria.
- TransMail also requires the input of user-set values for the relevance and importance criteria, which both correct the values for the user concerned and also offer a check on the effectiveness of the particular algorithms being used.

Note that for organizations with many posts attached to user teams, such as some defense agencies, BlueSpace can allow users and posts to be treated separately with varying levels of inter-correlation.

This present section sets out the basic mathematical framework within which the detailed mathematical model is being developed. The full working of this model is not presented in this white paper for brevity, due to the complexity and extensive tuning involved. Instead, a simplified exposé is given, which illustrates the nature and working of the core relevance algorithm.

9.2 Aim Of Relevance Formula

Supposing that we have a set of people $a, b, c, \dots, k, \dots$ involved in sending and receiving TransMails

The key aim of the relevance system is to produce two values for any recipient k :

- (1) The relevance ranking of an incoming TransMail x to user k before it is opened: " R_k^i its incoming relevance.
- (2) The relevance ranking of a TransMail x to user k after it is opened and read: " R_k^r its post-reading relevance.

This is not exactly the same as incoming and stored relevance, because some TransMails may be stored without being opened. In fact three different levels can be identified: (1) Relevance on arrival before being seen (2) Relevance after being opened and read (3) Relevance after been seen but dealt with unopened. This, however, will be ignored for this algorithm overview.

The ultimate aim of the system can be expressed as follows:

"If the recipient k were to open a set of incoming mails and assign relevance scores and rankings, these would correlate highly with both ' R_k^i ' and ' R_k^r '."

9.3 Factors In Relevance Formula

Factor sets P_j and P'_j indicate factors that affect incoming and post-reading relevance. P_j are factors known for incoming mail, and P'_j known as a result of the recipient action, ie they are post-action.

EX2006 at §9.2; EX2007 at §9; See Reply at 23.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 136

Sterling Did Not Meet Burden to Show Apr. 2005 Math Used By Claims

EX2006

EX2007 8/16/2005

4/18/2005 (before Dumais)

9.2.1 Introduction

There are three lists of attributes which could feasibly influence the Transmail's relevance to a receiver user. The three lists are groupings according to mail actions relevance, collaborative relevance and defined importance factors, which I shall label A , B and C respectively. The most obvious starting point is to work with indicator functions, $J(i)$, which are simply "on" or "off", depending on whether the attribute is favourable or not. This is fine for attributes such as:

"If a user receives a TransMail and replies to it, then the content of the original TransMail is likely to be of significant relevance",

but not necessarily for attributes such as:

"If a user has read a given TransMail many times, then it is likely to be of significant relevance to them.",

where a score function may be more appropriate, with a higher score dependent on the number of times opened or read. However this causes problems of relative weighting amongst attributes, and in any case we can create an indicator function by defining a threshold value of number of times opened or read. The third list is different as it deals with importances (see later), and thus must have a continuous scale of values. These importance

functions are called $I(i)$. A working formula for the relevance, $R(T_{st})$, of a given transmail, T_{st} is then:

$$R(T_{st}) = \frac{1}{3} \left(\frac{1}{W_A} \sum_{j=1}^{n_A} w_j^A J(A_j) + \frac{1}{W_B} \sum_{j=1}^{n_B} w_j^B J(B_j) + \frac{1}{W_C} \sum_{j=1}^{n_C} w_j^C I(C_j) \right)$$

where n_A , n_B and n_C are the number of attributes in each list, w^A , w^B and w^C are weightings associated with each attribute to allow for the possibility that some attributes are deemed of greater intrinsic relevance than others, and W^A , W^B and W^C are the sum of the weightings in each of the three lists. Of course if the weightings are all unity in a list then $W = n$ for that list. This formula assumes that the relative maximum weighting of each list is equal to 1, a sensible option; it may also be sensible to weight each list in the ratio $W_A : W_B : W_C$, in which case the formula would be:

$$R(T_{st}) = \frac{1}{W} \left(\sum_{j=1}^{n_A} w_j^A J(A_j) + \sum_{j=1}^{n_B} w_j^B J(B_j) + \sum_{j=1}^{n_C} w_j^C I(C_j) \right)$$

where:

$$W = \sum_{j=1}^{n_A} w_j^A + \sum_{j=1}^{n_B} w_j^B + \sum_{j=1}^{n_C} w_j^C$$

the sum of the weight within and across the lists.

8/16/2005 (after Dumais)

A summary of a working formula for the relevance, of a given TransMail x is then: $^x R_k^I$

$$\frac{\omega}{W_D} \sum_{j=1}^{n_D} w_j^D J_j^D + \frac{\nu}{W_C} \sum_{j=1}^{n_C} w_j^C I_j^C + \frac{\psi}{W_I} \left((w_1 f(I_s) + w_2 f(I_s) + w_3 \sum_{s=1}^{n_k} [w_1 f(I_s/N^s) + w_2 f(g I_{R_k}^{sm} / N^s)]) \right)$$
$$= \frac{\omega}{W_D} \sum_{i=1}^{n_D} w_i^D J_i^D + \frac{\nu}{W_C} \sum_{j=1}^{n_C} w_j^C I_j^C + \frac{\psi}{W_I} \left((w_1 f(I_k^m) + w_2 f(I_k^m) + w_3 \sum_{k=1}^{n_k} [w_1 f(I_k^m/N^m) + w_2 f(I_{R_k}^{sm} / N^m)]) \right)$$

where

n_i , n_j and n_k are the number of attributes in each list

w_i and w_j and w_1 and w_2 are weightings associated with each attribute

W_D , W_C etc are the sum of the weightings in each of the three lists

$\omega + \nu + \psi = 1$

As it stands the formula allows the separation out of the three types of input. If preferred, the weights can be suitably readjusted and the formula can be rewritten in a simpler form.

With appropriate values for the weights, then, the relevance of a piece of mail m is a number between 0 and 1.

Local importance is generally more crucial to relevance of incoming TransMail than global importance. Even if a TransMail is received from someone very high up in importance (eg a Company Director), it is likely to have been sent to

EX2006 at §9.2.1; EX2007 at §9.3; See Reply at 23.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 137

“Ideas” Were Not Complete Before June 2005



Justin Marston Depo.

EX2064 Metadata

Q. This is not the complete set of algorithms that eventually made it into the patent, correct?

A. Yes. This was in the creation process of the—you know, of the idea.

<u>EXHIBIT 2064</u>	
<i>metadata slip sheet</i>	
BegDoc	REV0001041
BegAttach	REV0001041
File Name	Alterations to document.doc
LastCreateOn	10/8/2005 4:50 AM
LastModifiedDate	10/8/2005 11:14 AM
Custodian	Marston, Paul
Author	Marston
SortDate	10/8/2005 11:14 AM
Office-Revision Number	7
Last Saved By	Marston
Exhibit No	

EX1050 at 149:19–150:20; EX2064 at 4; See Reply at 23.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 138

Changes After Dumais Beyond POSITA's Ability



Justin Marston Decl.

c. In Aug. 2005 (EX2007), in a document entitled “Blue Space Mail Relevance,” Section 9 is entitled “Mathematical Algorithm Framework.” The introduction identifies the math involved as being highly complex, which is why it took significant effort to develop the relevance model that is contained in the Provisional Application:

The delivery of the TransMail system of allocating relevance and importance requires the continuous development of a highly complex mathematically based system. Algorithms are required that continually update a set of inter-related values, based on user action, so that everyone's actions affect everyone else. This has some complex implications:

Changes After Dumais Beyond POSITA's Ability



Paul Marston Depo.

A. My memory isn't as good as it was when I wrote this. So I will not be able to tell you the details of what each term meant because I can't remember. But at the time I would have lived and breathed it for four or five months with it on my mind a lot, as I was helping my son to develop it.

And the formulas, I obviously recognize as ones I wrote, but they're very complex, and I'm not sure I could write them now. But I reckon I know that I wrote that formula because there was no one else who was a statistician involved in preparing the material which went into the application for the patent.

Q. And when you said the formula might need to be tweaked, is that something that a person of ordinary skill would be able to do?

Q. Objection; Rule 601, 602 and 611.

A. I doubt if anybody of ordinary skill could understand it in the first place. (Reporter clarification.)

A. I doubt whether anyone of—what was it? Of average competence?

Q. Ordinary skill.

A. Ordinary skill. No, an ordinary skilled person wouldn't understand it.

EX1064 at 13:20–22, 95:1–13; EX1058 at 200:19–201:2; See Reply at 23.

Khan Depo.



Q. All right. So a person of skill would need to do an empirical study to determine how large a cognate group is?

Q. Objection; Rule—Rule and 613.

A. No. They need to do more experiment—extensive experiment and play with these numbers and do the—try to understand all of this statistical methods and then find it the right—it's not trivial.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 140

Roadmap

1) Claim Construction

2) Dr. Khan's Testimony

3) Grounds 4–5

4) Dumais Is Prior Art

5) Grounds 1–3

6) Secondary Considerations

- Sterling's Conception Evidence Is Uncorroborated
- Named Inventors Did Not Conceive Claims
 - Work of Unnamed Inventors Undercuts Purported Conception
 - Conception Documents Do Not Disclose the "Identifying..." Limitation (Elements 1[f]/6[d]/7[b])
 - The "Ideas" in the Conception Documents Are Incomplete
- Named Inventors Were Not Diligent

Named Inventors Were Not Legally Diligent Throughout Critical Period



The reasonable diligence standard balances the interest in rewarding and encouraging...the earliest possible disclosure of innovation.

Griffith v. Kanamaru, 816 F.2d 624, 626 (Fed. Cir. 1987)

See Reply at 23–24.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at **142**

Marstons Spent 108 Hours In Total During Entire Critical Period

Justin Marston Depo.

Q. —looking at work done between June 7th and August 21.

...

Q. Approximately 20 hours of work—you and Paul Marston put in approximately **20** hours of work between June 7th and August 21 on the provisional application.

A. Which paragraph number is that?

Q. 17.

A. Yes, it's a guess, but yes.

Q. For August 21 through September 21 on Page 8—

A. Yeah.

Q. —you estimated that you spent **three hours** of work on a provisional application between—

A. Yes, me myself.

...

Q. And you were not sure how much Paul Marston had.

A. That's correct.

Q. Okay. If we go to September 21st through October 7th—

A. Yeah.

Q. —on 10—

A. Uh-huh.

Q. —if you look at paragraph 34—

A. Yes.

Q. —you and Paul Marston spent approximately **55** hours between September 21st and October 7th on the provisional application?

A. Yes.

Q. Looking at the time period of October 7th through November 8th through 13th—

A. Uh-huh.

Q. —if you look at paragraph 47, you and Paul Marston spent about **30** hours between October 7th and November 13th on the provisional application?

A. Uh-huh, yes.

Q. And for the time period between November 13th and January 11 through 13, you testified that **you did not spend any particular hours** on—

A. Yes.

Q. —the provisional application?

A. Correct.

Q. Okay. And does that include Paul Marston?

A. Ask him.

...

Q. But based off of what you know here today, Paul Marston also did not spend any time on the provisional application between November 13th and January 13th, 2006?

A. I believe that. You should ask him, though, yeah.

$$20 + 3 + 55 + 30 + 0$$

Paul Marston Agrees With His Minimal Time Contribution



Paul Marston Depo.

Aug 21st–Sep 21st

Q. So you will not make any estimates for the amount of time you spent on the relevance portion of the draft provisional patent application between **August 21st and September 21st, 2005?**

A. **I don't feel able to do that, no.**

A. So if Justin feels he can make those hours, then **it's consistent with my recollections.**

Nov 13th–Jan 11th

Q. You're not aware of any alterations you made to the draft provisional patent application after **November 10th?**

A. I'm not aware of any.

Commercial Development Not Excuse for Delay



Delays in reduction to practice caused by an inventor's efforts to refine an invention to the most marketable and profitable form have not been accepted as sufficient excuses for inactivity. . . .

Griffith's excuses sound more in the nature of commercial development, not accepted as an excuse for delay, than the "hardship" cases most commonly found and discussed *supra*

... In *Litchfield*, Judge Rich held that the inventors failed to establish due diligence because of their inactivity between April 1964 and September 1965. The court based this conclusion on the finding that the inventors possessed the capacity to test the invention and chose instead to test other compounds. *Id.*

Griffith v. Kanamaru, 816 F.2d 624, 627 (Fed. Cir. 1987)

See Reply at 24.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 145

Marstons Were Working on “Other” Things



Justin Marston Decl. (2nd Supp.)

9. From June 2005 until the provisional patent application was filed on January 11, 2006, I was responsible for a number of BlueSpace operations, including both corporate matters and technical matters, including working on the inventions set forth in the ‘217 Patent, but also work on other BlueSpace patents.

10. In or around April 2005, I met Admiral Inman and began engaging with the NSA, the CIA, and the DIA on behalf of BlueSpace. In July 2005, Admiral Inman’s company, Gefinor Ventures, provided a term sheet to invest in BlueSpace. From September 2005 until July 2006, I was working on the Gefinor investment round, which eventually closed around July 2006. The work include detailed financial modeling and due diligence with Gefinor Ventures. This work is reflected in the log of my BlueSpace documents (EX2041). E.g., EX2041 (BlueSpace work log), at Nos. 27-28 (letter to Admiral Inman).

EX2030 at ¶¶9–10; EX2031 at ¶15; See Reply at 24.

Paul Marston Decl.



15. During this same timeframe, I was working full time teaching at the University of Central Lancashire (with main courses on statistics and other modules on history and philosophy of science and its relation to theology), and Justin Marston was involved in many other matters on behalf of his company BlueSpace. We were both also very busy with other activities during this period. Among other activities, in addition to my full time teaching responsibilities and my work on the ‘217 Patent, I was organising the charity Scibel that Justin and I had founded, I organised and taught on modules (about first year undergraduate level) on a church-based course, I was appointed as a Sessional Lecturer on an undergraduate ethics course at the Nazarene Theological College (EX2078) and I was involved in writing two Christian books that were published in 2006. My multidisciplinary academic interests involved these activities, but did not supplant my involvement in the statistics and mathematics in my full time post or the development of the relevance algorithm.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 146

Sterling “Pivoted” to Other Projects for “Money”

Justin Marston Depo.

Q. You said you—you said that BlueSpace pivoted away from the relational—sorry, the relevance models in the '217 patent into this multi-domain security. Why was that?

A. Money.

Q. Money. And what do you mean by “money”?

A. Well, I mean, as an entrepreneur, you look at what your customers are asking you for, and then you go towards that. And so, you know, the relevance patent was just different to that big post-9/11 problem, the—you know, how do I build applications that span multiple security domains?

Q. I think my—my question, just to—just to go back to it, though—

A. Sure.

Q. —is you never implemented the patent, right?

A. Correct, yeah.

Q. And the reason you didn't implement the patent was because you pivoted to the multi-security domain?

A. Yes, that's—

Q. Right?

A. Yep, yep.

Document Logs Do Not Corroborate Earlier Invention

Updated Privilege Log of EX2042

Updated EX2041 Document List

Updated (11/3/2025) EX2042									
Log of privileged communications with BlueSpace counsel regarding BlueSpace work from June 28, 2005, until January 13, 2006									
Rev/Doc	To	From	CC	Unified Subject	Sent On	Custodian	Privilege	Privilege Description	
REV0000889	Brian Hoffman [B.Hoffman@Fenwick.com]	Justin Marston [Justin.marston@bluespace.com]		context patent	7/10/2005 20:56	Fenwick	Attorney-Client	Correspondence to counsel reflecting legal advice being sought regarding patent application on BlueSpace Contexts	
REV0000888	Justin Marston [Justin.marston@bluespace.com]	Brian Hoffman [O=FENWICK/OU=SF-EXCHANGE/CN=RECIPIENTS/CN=BHOFFMAN]		RE: context patent	7/11/2005 12:27	Fenwick	Attorney-Client	Correspondence from counsel providing legal advice being sought regarding patent application on BlueSpace Contexts	
REV0000887	Justin Marston [Justin.marston@bluespace.com]	Brian Hoffman [O=FENWICK/OU=SF-EXCHANGE/CN=RECIPIENTS/CN=BHOFFMAN]		RE: context patent / Message	7/11/2005 17:10	Fenwick	Attorney-Client	Correspondence from counsel to facilitate the rendition of legal advice regarding patent application filed in May	
REV0000886	Justin Marston [Justin.marston@bluespace.com]	Brian Hoffman [O=FENWICK/OU=SF-EXCHANGE/CN=RECIPIENTS/CN=BHOFFMAN]		Transmail	7/19/2005 17:26	Fenwick	Attorney-Client	Correspondence from counsel providing legal advice regarding patent portfolio	
REV0000885	Brian Hoffman [B.Hoffman@Fenwick.com]	Justin Marston [Justin.marston@bluespace.com]	'Sara Ball' [sara.ball@bluespace.com]	RE: Transmail	7/21/2005 7:27	Fenwick	Attorney-Client	Correspondence to counsel seeking legal advice regarding patent portfolio	
REV0000884	Brian Hoffman [B.Hoffman@Fenwick.com]	Sara Ball [sara.ball@bluespace.com]		RE: Transmail	7/22/2005 3:19	Fenwick	Attorney-Client	Correspondence to counsel on behalf of J. Marston to facilitate the rendition of legal advice regarding filings in connection with patent portfolio	

EXHIBIT 5
WIT. Marston
DATE: 11-11-25
Annette Pettier, CSR, CRR

1

X Corp. EX1056
X Corp. v. Sterling Computers Corp.
IPR2025-00299
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Updated EX2041											
(Log of Produced BlueSpace documents showing BlueSpace work from June 28, 2005, until January 13, 2006)											
Production::Begin Dates	Production::End Dates	File Name	Custodian	LastModifiedDate	LastCreateOn	Author	Last Saved By				
STERLING_XIP R_0003169	STERLING_XIP R_0003172	BlueSpace for SOX PDF.doc	Marston, Justin	6/28/2005 8:23	6/28/2005 6:32	n/a	n/a				
STERLING_XIP R_0003065	STERLING_XIP R_0003064	BlueSpace Screens.ppt	Marston, Justin	7/13/2005 9:06	11/19/2003 2:56		Debra Miner				
STERLING_XIP R_0003007	STERLING_XIP R_0003008	BlueSpace Defense.pdf	Marston, Justin	7/15/2005 11:25	7/15/2005 11:25	dcs3ash					
STERLING_XIP R_0003133	STERLING_XIP R_0003134	BlueSpace TransAct Server.pdf	Marston, Justin	7/18/2005 9:28	7/18/2005 9:25	dcs3ash					
STERLING_XIP R_0003135	STERLING_XIP R_0003136	BlueSpace TransMail.pdf	Marston, Justin	7/18/2005 9:31	7/18/2005 9:31	dcs3ash					
STERLING_XIP R_0003009	STERLING_XIP R_0003023	BlueSpace Email Forensics.pdf	Marston, Justin	7/18/2005 9:40	7/18/2005 9:40	dcs3ash					
STERLING_XIP R_0003041	STERLING_XIP R_0003057	BlueSpace Governance Technical Overview.pdf	Marston, Justin	7/18/2005 9:56	7/18/2005 9:56	dcs3ash					
STERLING_XIP R_0003137	STERLING_XIP R_0003139	Documentation Executive Summary.pdf	Marston, Justin	7/18/2005 10:00	7/18/2005 10:00						
STERLING_XIP R_0003004	STERLING_XIP R_0003006	BlueSpace Architecture Best Practice.pdf	Marston, Justin	7/18/2005 10:07	7/18/2005 10:07	dcs3ash					
STERLING_XIP R_0003166	STERLING_XIP R_0003166	BlueSpace Forensics.pdf	Marston, Justin	7/25/2005 6:18	7/25/2005 6:18	dcs3ash					
STERLING_XIP R_0003160	STERLING_XIP R_0003162	BlueSpace for Sarbanes-Oxley.pdf	Marston, Justin	7/25/2005 6:20	7/25/2005 6:20	dcs3ash					
STERLING_XIP R_0003428	STERLING_XIP R_0003480	CIA Presentation 26.07.05.ppt	Marston, Justin	7/25/2005 6:26	11/19/2003 2:56		Maki				
STERLING_XIP R_0002943	STERLING_XIP R_0002965	JEB SUBSCRIPTION July 05 + j comments.DOC	Marston, Justin	7/25/2005 18:33	7/25/2005 16:34	James Burk	Justin Marston				
STERLING_XIP R_0002966	STERLING_XIP R_0002990	jeb07-23-05 BSPPM + j comments.doc	Marston, Justin	7/26/2005 8:50	7/26/2005 5:47	James E. Burk	Justin Marston				
STERLING_XIP R_0003812	STERLING_XIP R_0003858	SEC Presentation 270705.ppt	Marston, Justin	7/27/2005 8:22	11/19/2003 2:56		Justin Marston				
STERLING_XIP R_0003766	STERLING_XIP R_0003811	SEC Presentation 27.07.05.ppt	Marston, Justin	7/27/2005 9:37	11/19/2003 2:56		Jason Fitzpatrick				
STERLING_XIP R_0003537	STERLING_XIP R_0003547	CIA Presentation.ppt	Marston, Justin	7/28/2005 13:18	11/19/2003 2:56		Justin Marston				

EXHIBIT 5
WIT. Marston
DATE: 11-11-25
Annette Pettier, CSR, CRR

X Corp. EX1055
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EX1056; EX1055; See Reply at 24-25.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 148

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Only One Document on EX2041 Relates to Claimed Inventions

Updated EX2041 Document List

Justin Marston Depo.



Updated EX2041
(Log of Produced BlueSpace documents showing BlueSpace work from June 28, 2005, until January 13, 2006)

STERLING_XIP R_0002916	STERLING_XIPR _0002916	BSC financial plan - 101005 v2.xls	Marston, Justin	10/11/2005 0:42	8/30/2005 9:07	Jackie Williams	Justin Marston
STERLING_XIP R_0002918	STERLING_XIPR _0002918	BSC financial plan - 11,10,05.xls	Marston, Justin	10/11/2005 11:52	8/30/2005 9:07	Jackie Williams	Justin Marston
STERLING_XIP R_0002929	STERLING_XIPR _0002931	Financial Plan Summary 11,10,05.doc	Marston, Justin	10/11/2005 12:09	10/11/2005 12:01	Jackie Williams	Justin Marston
STERLING_XIP R_0003735	STERLING_XIPR _0003735	Lewis email.doc	Marston, Justin	10/11/2005 13:03	10/11/2005 13:02	Justin Marston	Justin Marston
STERLING_XIP R_0002933	STERLING_XIPR _0002941	Gefinor Term Sheet.doc	Marston, Justin	10/12/2005 12:04	3/4/2004 14:27	JCLEARY	Chris Davis
STERLING_XIP R_0003297	STERLING_XIPR _0003319	Checkpoint presentation 13,10,05.ppt	Marston, Justin	10/13/2005 7:38	11/19/2003 2:56		Justin Marston
STERLING_XIP R_0003140	STERLING_XIPR _0003140	VDI BlueSpace_Business_Records .pdf	Marston, Justin	11/1/2005 11:02	11/1/2005 11:00	Michael T. Kaider	
STERLING_XIP R_0003886	STERLING_XIPR _0003886	US Sales forecast 1,11,05.xls	Marston, Justin	11/1/2005 22:58	11/1/2005 14:23	Justin Marston	Justin Marston
STERLING_XIP R_0003320	STERLING_XIPR _0003348	Citigroup Presentation 02,11,05.ppt	Marston, Justin	11/2/2005 12:25	11/19/2003 2:56		Justin Marston
STERLING_XIP R_0003933	STERLING_XIPR _0003945	Verizon 02,11,05.ppt	Marston, Justin	11/2/2005 20:19	11/19/2003 2:56		Justin Marston
STERLING_XIP R_0003291	STERLING_XIPR _0003294	BluespaceSoftware- LehmanBrothers.doc	Marston, Justin	11/8/2005 14:17	11/8/2005 12:39	I Gadsden	I Gadsden
STERLING_XIP R_0003569	STERLING_XIPR _0003585	EPA Presentation 9,11,05.ppt	Marston, Justin	11/8/2005 19:42	11/19/2003 2:56		Justin Marston
STERLING_XIP R_0002664	STERLING_XIPR _0002761	BlueSpace Mail Relevance JM 06,11,05.doc	Marston, Justin	11/8/2005 23:59	11/6/2005 15:42		Justin Marston
STERLING_XIP R_0003586	STERLING_XIPR _0003609	EPA Presentation 91105.ppt	Marston, Justin	11/9/2005 13:56	11/19/2003 2:56		Justin Marston
STERLING_XIP R_0003349	STERLING_XIPR _0003379	Citigroup Presentation 10,11,05.ppt	Marston, Justin	11/10/2005 13:48	11/19/2003 2:56		Justin Marston
STERLING_XIP R_0003946	STERLING_XIPR _0003963	Verizon 15,11,05.ppt	Marston, Justin	11/14/2005 17:45	11/19/2003 2:56		Justin Marston
STERLING_XIP R_0003919	STERLING_XIPR _0003932	Veridyne USDA Conference 15,11,05.ppt	Marston, Justin	11/15/2005 2:11	11/19/2003 2:56		Justin Marston
STERLING_XIP R_0003887	STERLING_XIPR _0003902	Veridyne USDA Conference 15,11,05 v2.ppt	Marston, Justin	11/15/2005 15:02	11/19/2003 2:56		Justin Marston

Q. Page 5, same question.

A. So I think that the one on the 8th of—it could be the other way around, isn't it? Yeah, the 8th of November, "BlueSpace mail relevance," that one likely does.

Q. Uh-huh.

A. I don't see any others that I think do.

EX1055 at 5; EX1050 at 214:22–215:7; See Reply at 24–25.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 149

Only Four Documents on EX2042 Relate to Claimed Inventions

Updated Privilege Log of EX2042

Justin Marston Depo.



Updated (11/3/2025) EX2042
Log of privileged communications with BlueSpace counsel regarding BlueSpace work from June 28, 2005, until January 13, 2006

BegDoc	To	From	CC	Unified Subject	SentOn	Custodian	Privilege	Privilege Description
REV0000814	Justin Marston [justin.marston@bluespace.com]	Brian Hoffman [b.hoffman@fenwick.com] F- EXCHANGE/CN=REC- PIENTS/CN=BHOFFMAN]	jackie.williams@bluespace.com;Shawna Swanson [SSwanson@Fenwick.com];Rob Deilenbach [RDeilenbach@Fenwick.com]	Introduction to Employment Lawyer	1/3/2006 18:36	Fenwick	Attorney-Client	Correspondence from counsel providing legal advice regarding employment law
REV0000810	Brian Hoffman [b.hoffman@fenwick.com]	Justin Marston [justin.marston@bluespace.com]		New patent	1/11/2006 19:39	Fenwick	Attorney-Client	Correspondence to counsel to facilitate the rendition of legal advice regarding patent application on BlueSpace Mail Relevance
REV0000810.0001				BlueSpace Mail Relevance JM 131105.doc		Fenwick	Attorney-Client	Draft patent application sent to counsel to facilitate the rendition of legal advice regarding patent application on BlueSpace Mail Relevance
REV0000808	Justin Marston [justin.marston@bluespace.com]	Brian Hoffman [b.hoffman@fenwick.com] F- EXCHANGE/CN=REC- PIENTS/CN=BHOFFMAN]		RE: New patent - inventorship?	1/12/2006 20:43	Fenwick	Attorney-Client	Correspondence from counsel providing legal advice regarding draft patent application on BlueSpace Mail Relevance
REV0000807	Brian Hoffman [b.hoffman@fenwick.com]	Justin Marston [justin.marston@bluespace.com]		RE: New patent - inventorship?	1/12/2006 22:07	Fenwick	Attorney-Client	Correspondence to counsel to facilitate the rendition of legal advice regarding draft patent application on BlueSpace Mail Relevance

Q. So do you agree that of the entries in this log, only the last four relate to the claimed invention?

A. Yes.

EX1056 at 18; EX1050 at 242:8–11; See Reply at 24–25.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 150

Two-Month Gap (November 13 → January 11)



Justin Marston Depo.



Paul Marston Decl.

Q. And for the time period between November 13th and January 11 through 13, you testified that you did not spend any particular hours on—

A. Yes.

Q. —the provisional application?

A. Correct.

Q. You're not aware of any alterations you made to the draft provisional patent application after November 10th?

A. I'm not aware of any.

Two-Month Gap (November 13 → January 11)

Justin Marston Decl. (2nd Supp.)

Work During November 13, 2005, to January 11-13, 2006, Timeframe

50. On January 11, 2006, I sent a draft of the provisional patent application to my patent prosecution attorney, Brian Hoffman at Fenwick. **EX2042** (privilege log).

51. Prior to sending the provisional patent application to my patent prosecution attorney in January 2006, I had hoped (during the last couple of months of 2005) to obtain some additional feedback from others, but I was unable to do so. As discussed above, during this same timeframe, I was working on the Gefinor investment round, restructuring BlueSpace, moving BlueSpace to the United States (including traveling to the United States myself), and shutting down the UK office of BlueSpace, including letting go of the vast majority of the European headcount. The Thanksgiving, Christmas, and New Year's holidays also fell during this timeframe.

52. Between November 9, 2005, and January 11, 2006, I was working on a number of other tasks for BlueSpace. To the best of my recollection, every single business day during the Summer of 2005, I worked on BlueSpace business to support the TransMail product. (As discussed above, we intended that the inventions of the '217 Patent would be incorporated into TransMail.)

53. My work as CEO of BlueSpace during this time period is corroborated by documents, including e-mails exchanged with counsel for BlueSpace relating to TransMail and documents saved to my BlueSpace folder / drive. The e-mails maintained by counsel for BlueSpace show that I exchanged correspondence with counsel for BlueSpace regarding BlueSpace matters on November 15, 17, and 24, December 1, 2, 5, 6, 7, 12, 20, 22, 27, and January 3, 11, 12. **EX2042** (privilege log). The documents saved to my BlueSpace folder show that I worked on BlueSpace documents on November 9, 10, 14, 15, 21, 22, 25, 27, 28, 29, and 30, December 1, 2, 4, 5, 6, 7, 8, 9, 11, 12, 13, 15, 20, 21, and 30; and January 6, 9, and 12, 2006. **EX2041** (log of BlueSpace work to support TransMail).

EX2030 at ¶¶50–53; See Reply at 25.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 152

Two-Month Gap (November 13 → January 11)

University Schedule 2005–2006, P. Marston

Paul Marston Depo.



Academic Calendar 2005 - 06									
September-05		REASSESSMENT BOARDS RESULTS OUT 9 SEPTEMBER		ORIENTATION 2005/06	Week 1 Sem 1 INDUCTION & ENROLMENT 1ST YR		Week 2 Sem 1 START TEACHING 1ST YR		
October-05	Week 3 Sem 1 START TEACHING RETURNERS		Week 4 Sem 1		Week 5 Sem 1		Week 6 Sem 1		
November-05	Week 7 Sem 1		Week 8 Sem 1		Week 9 Sem 1		Week 10 Sem 1		Week 11 Sem 1
December-05						STUDENT VACATION		STUDENT VACATION	
January-06									
February-06	Week 2 Sem 2		Week 3 Sem 2		Week 4 Sem 2		Week 5 Sem 2		
March-06	Week 6 Sem 2		Week 7 Sem 2		Week 8 Sem 2		Week 9 Sem 2		Week 10 Sem 2
April-06				STUDENT VACATION		STUDENT VACATION		Week 12 Sem 2	
May-06		Week 13 Sem 2 EXAM REVISION		Week 14 Sem 2 CENTRAL EXAMS: FULL YR + SEM 2		Week 15 Sem 2 CENTRAL EXAMS: FULL YR + SEM 2		REASSESSMENT SEMESTER 1 EXAMS	
June-06	ASSESSMENT BOARD PREP		ASSESSMENT BOARD PREP		ASSESSMENT BOARDS		ASSESSMENT BOARDS		REASSESSMENT REVISION APPEALS/GUIDANCE
July-06				AWARD CEREMONIES					
August-06					CENTRAL EXAMS: REASSESSMENT		REASSESSMENT BOARDS		REASSESSMENT BOARDS
September-06		APPEALS/GUIDANCE		Week 1 Sem 1 05/06 ORIENTATION 05/07		Week 2 Sem 1 05/06 INDUCTION & ENROLMENT 1ST YRS		Week 3 Sem 1 05/06 START OF TEACHING 1ST YRS	

Q. So like with the 2004 through 2005 academic year, between December 19th through January 2nd of 2005 through 2006, there would be maybe some revisions in preparation, but not a heavy load?

A. Yes.

EX1066; EX1064 at 102:23–103:2; See Reply at 25.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 153

Other Gaps in Diligence

Metadata Table

Table 2: Metadata of documents during the critical period (after Dumais reference of June 2005)

Exhibit	File Name	Create Date	Author	Last Modify Date	Last Saved by
58-Day Gap In Activity					
EX2007	BlueSpaceMailRelevance finaledited.doc	8/16/2005	.	8/16/2005	Marston
EX2008	BlueSpace Mail Relevancedited2.doc	8/17/2005	.	8/17/2005	Marston
EX2056	formula.doc	8/17/2005	Jon Fernyhough	8/17/2005	Jon Fernyhough
EX2057	SoftwareImplementation.doc	8/18/2005	Jon Fernyhough	8/18/2005	Jon Fernyhough
EX2058	SoftwareImplementation Comment.doc	8/19/2005	Jon Fernyhough	8/19/2005	Marston
EX2037	Frequency analysis stats.xls	8/21/2005	Justin Marston	8/21/2005	Justin Marston
EX2073	BlueSpaceMailRelevance final.doc	8/4/2005	.	8/21/2005	Justin Marston
EX2059	BlueSpaceRelevancePM 250805.doc	8/25/2005	.	8/25/2005	Marston
25-Day Gap In Activity					
EX2032	BlueSpace Mail Relevance JM 19,09,05.doc	9/19/2005	.	9/21/2005	Justin Marston
EX2060	BlueSpaceMailRelevancePM 250905.doc	9/25/2005	.	9/25/2005	Marston
EX2061	BlueSpaceMailRelevancePM 270905c.doc	9/27/2005	.	9/28/2005	Marston
EX2062	BlueSpaceMailRelevancePM 280905.doc	9/28/2005	.	9/28/2005	Marston
EX2033	BlueSpace Mail Relevance 02,10,05.doc	10/2/2005	.	10/2/2005	Justin Marston
EX2010	BlueSpace Mail Relevance 02,10,05_jf.doc	10/3/2005	.	10/7/2005	Jon Fernyhough
EX2011	BlueSpace Mail Relevance 02,10,05_jf.doc	10/3/2005	.	10/7/2005	Marston

Exhibit	File Name	Create Date	Author	Last Modify Date	Last Saved by
EX2012	BlueSpace Mail Relevance 02,10,05_jfpm.doc	10/7/2005	.	10/7/2005	Marston
EX2034	BSMR 02,10,05_jfpm.doc	10/7/2005	.	10/7/2005	Marston
EX2063	Comments to Jon and Justin 07.doc	10/7/2005	Marston	10/8/2005	Marston
EX2064	Alterations to document.doc	10/8/2005	Marston	10/8/2005	Marston
EX2065	BSMR021005_jfpm2.doc	10/7/2005	.	10/13/2005	Marston
EX2066	BSMR021005_jfpm3.doc	10/13/2005	.	10/13/2005	Marston
EX2067	BSMR021005_jfpm4.doc	10/13/2005	.	10/13/2005	Marston
EX2068	BSMR021005_jfpm5.doc	10/13/2005	.	10/13/2005	Marston
EX2069	BSMR021005_jfpm6.doc	10/13/2005	Marston	10/14/2005	Marston
EX2070	Jon & Justin 14.10.05.doc	10/14/2005	Marston	10/14/2005	Marston
EX2071	Comments to Justin and Jon Oct 15th.doc	10/15/2005	Marston	10/15/2005	Marston
25-Day Gap In Activity					
EX2013	There are many cognate relevance value...	11/9/2005	Marston	11/9/2005	Marston
EX2072	BlueSpaceMailRelevanceJM 06,11,05.doc	11/9/2005	.	11/10/2005	Marston
EX2035	BlueSpace Mail Relevance JM 121105.doc	11/12/2005	.	11/12/2005	Justin Marston
EX2074	BlueSpaceMailRelevancePM 12,11,05.doc	11/12/2005	.	11/12/2005	Marston
EX2036	BlueSpace Mail Relevance JM 131105.doc	11/12/2005	.	11/13/2005	Justin Marston
EX2038	Relevance typology 2.bmp			11/13/2005	

Exhibit	File Name	Create Date	Author	Last Modify Date	Last Saved by
EX2039	Relevance process flow 2.bmp			11/13/2005	
59-Day Gap In Activity²					

EX1068 at 1–3; See Reply at 25.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at **154**

Brown Is Inapposite



Justin Marston Decl. (2nd Supp.)

35. Between August 17 and October 6, I was working on a number of other tasks for BlueSpace. To the best of my recollection, every single business day during the period from August 17 to October 6, I worked on BlueSpace business to support the TransMail product. (As discussed above, we intended that the inventions of the '217 Patent would be incorporated into TransMail.)

48. During the timeframe of October 7 through November 8, I was working on a number of other tasks for BlueSpace. To the best of my recollection, every single business day the timeframe of October 7 through November 9, I worked on BlueSpace business to support the TransMail product. (As discussed above, we intended that the inventions of the '217 Patent would be incorporated into TransMail.)

52. Between November 9, 2005, and January 11, 2006, I was working on a number of other tasks for BlueSpace. To the best of my recollection, every single business day during the Summer of 2005, I worked on BlueSpace business to support the TransMail product. (As discussed above, we intended that the inventions of the '217 Patent would be incorporated into TransMail.)

EX2030 at ¶¶35, ¶48, ¶52; See Reply at 25–26.

Brown v. Barbacid

There is no rule requiring a specific kind of activity in determining whether the applicant was reasonably diligent in proceeding toward an actual or constructive reduction to practice.

Brown v. Barbacid, 436 F.3d 1376, 1380 (Fed. Cir. 2006)

The Board found that Ms. Morgan's notebook records along with those of Dr. Reiss filled all but six days of the critical period, and that each of the six remaining days was a single-day gap; this was deemed sufficient to show substantially continuing activity.

Brown v. Barbacid, 436 F.3d 1376, 1381 (Fed. Cir. 2006)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 155

Monsanto Is Inapposite



Justin Marston Decl. (2nd Supp.)

35. Between August 17 and October 6, I was working on a number of other tasks for BlueSpace. To the best of my recollection, every single business day during the period from August 17 to October 6, I worked on BlueSpace business to support the TransMail product. (As discussed above, we intended that the inventions of the '217 Patent would be incorporated into TransMail.)

48. During the timeframe of October 7 through November 8, I was working on a number of other tasks for BlueSpace. To the best of my recollection, every single business day the timeframe of October 7 through November 9, I worked on BlueSpace business to support the TransMail product. (As discussed above, we intended that the inventions of the '217 Patent would be incorporated into TransMail.)

52. Between November 9, 2005, and January 11, 2006, I was working on a number of other tasks for BlueSpace. To the best of my recollection, every single business day during the Summer of 2005, I worked on BlueSpace business to support the TransMail product. (As discussed above, we intended that the inventions of the '217 Patent would be incorporated into TransMail.)

Monsanto Co. v. Mycogen Plant Sci., Inc.

The largest gap alleged by Monsanto occurs between the plant transformation experiments in January 1988 and the initial hornworm toxicity tests in May 1988. However, Cannon's lab notebook identifies various activities, most notably the tending of the growing plants, ongoing during this time frame.

Monsanto Co. v. Mycogen Plant Sci., Inc., 261 F.3d 1356, 1370 (Fed. Cir. 2001)

Roadmap

1) Claim Construction

2) Dr. Khan's Testimony

3) Grounds 4–5

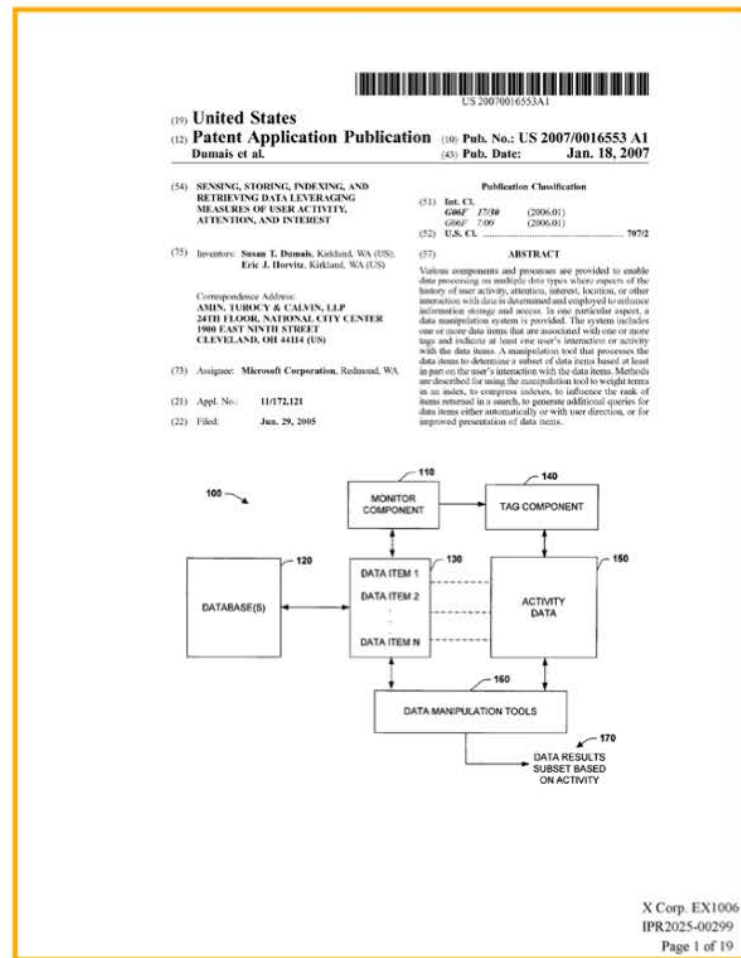
4) Dumais Is Prior Art

5) Grounds 1–3

6) Secondary Considerations

- Dumais Discloses Elements 1[f]/6[d]/7[b]

Dumais Tracks User Actions and Calculates Importance of Data Items



activities within the application. These can include monitoring how long a user dwells on a particular set or subset of data, what data has been modified or observed, how often and over what time span the data has been operated upon and so forth. A tag component 140 assigns weights or scores according to monitored data activities. These can be probabilistically assigned, if desired (or other weighting classification), and can reflect the amount or pattern of the user's interaction with a given piece of data or application. For instance, minimal file usage may generate a lower weight than an extensive editing of the file. When the weights or scores have been determined, the determined weight information for activity is associated or tagged to one or more data items and is illustrated as activity data 150. This association can occur within the database 120 for example such as creating or modify values in a column or columns of the database 120 to indicate the weighting or importance of a particular item identified in a row of the database 120 for the metadata tag of interest. It is to be appreciated that the columns are logical entities and could either be stored explicitly or computed dynamically at the time of usage. Other type associations could include a metadata reference that is directly or indirectly assigned to one or more data items 130.

Dumais Monitors Actions by Users and Stores in Database 120

Dumais

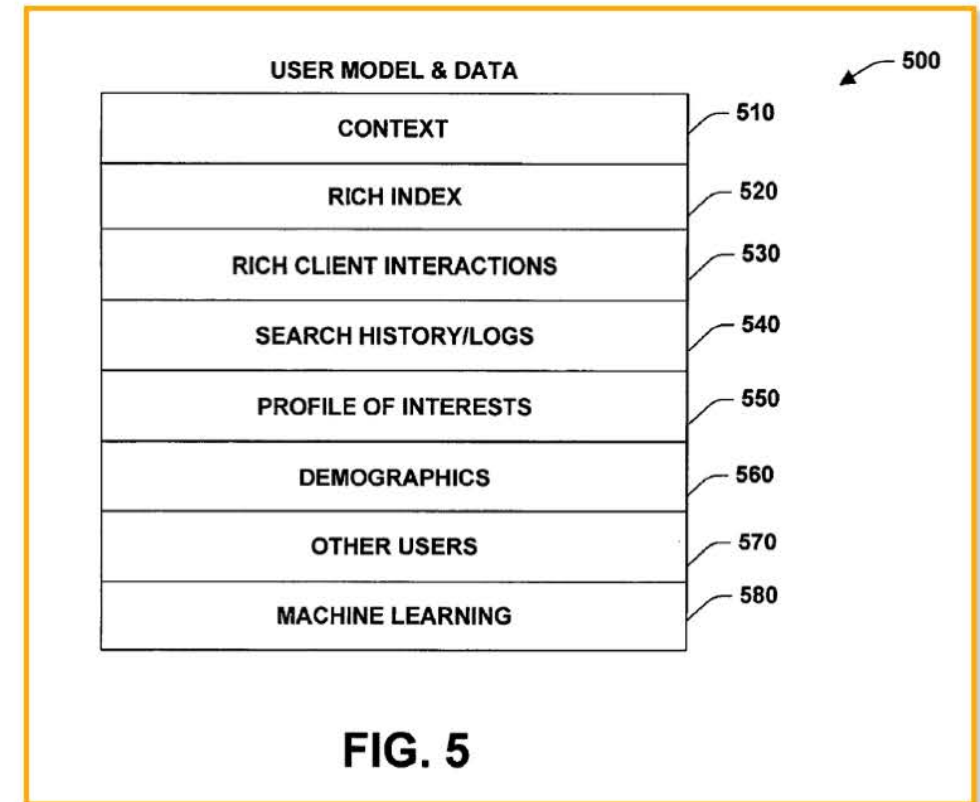
data items and is illustrated as activity data 150. This association can occur within the database 120 for example such as creating or modify values in a column or columns of the database 120 to indicate the weighting or importance of a particular item identified in a row of the database 120 for the metadata tag of interest. It is to be appreciated that the columns are logical entities and could either be stored explicitly or computed dynamically at the time of usage. Other type associations could include a metadata reference that is directly or indirectly assigned to one or more data items 130.

[0022] Referring initially to FIG. 1, a system 100 illustrates a data processing architecture that employs user activity or interaction data to perform various computer-related tasks. A monitor component 110 observes data interactions overtime with one or more databases 120 that store one or more data items 130. Monitoring can occur via a background and/or foreground component (not shown) and employed to determine when the data items 130 are interacted with by users. For instance, this can include observing when files are opened or closed, edited, added to or deleted from, read or written to, cut, pasted, last edited, forwarded, replied to, sent to, last viewed, the amount of time viewed, time interacted with over a time horizon, attentional annotations indicating how long the item 130 or different sub-components of the item was the focus of attention, and so forth.

Dumais Calculates Relevance Based on Multi-Dimensional User Model

Dumais

[0052] Models can be derived for individuals or groups of individuals at 570 such as via collaborative filtering techniques that develop profiles by the analysis of similarities among individuals or groups of individuals. Similarity computations can be based on the content and/or usage of items. It is noted that modeling infrastructure and associated processing can reside on client, multiple clients, one or more servers, or combinations of servers and clients.



Dumais Stores All Interactions on Data Item by All Users

'217 Patent

Dumais

Claim 1[f]

identify at least one other of the plurality of users that
is a recipient of the piece of electronic content and
that is cognate to the user, and

search engines 480. A global database 490 of user statistics may be maintained to facilitate updates to the user model 420. As can be appreciated, the user model 420 and/or global statistics 490 can be associated with user activity or interaction data as previously describe to facilitate data manipulation or processing.

[0022] Referring initially to FIG. 1, a system 100 illustrates a data processing architecture that employs user activity or interaction data to perform various computer-related tasks. A monitor component 110 observes data interactions overtime with one or more databases 120 that store one or more data items 130. Monitoring can occur via a background and/or foreground component (not shown) and employed to determine when the data items 130 are interacted with by users. For instance, this can include observing when files are opened or closed, edited, added to or deleted from, read or written to, cut, pasted, last edited, forwarded, replied to, sent to, last viewed, the amount of time viewed, time interacted with over a time horizon, attentional annotations indicating how long the item 130 or different sub-components of the item was the focus of attention, and so forth.

EX1001 at Claim 1; EX1006 at [0040], [0022]; See Petition at 32–34.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 161

POSITAs Would Have Understood Actions on Same Item More Relevant



Houh Decl.

Dumais

users on a single data item. A POSA would have understood that two users who interact with the same item offer the greatest indicator of relevance for that data item—i.e., data about a specific data item is more valuable than data about a different data item.

[0022] Referring initially to FIG. 1, a system 100 illustrates a data processing architecture that employs user activity or interaction data to perform various computer-related tasks. A monitor component 110 observes data interactions overtime with one or more databases 120 that store one or more data items 130. Monitoring can occur via a background and/or foreground component (not shown) and employed to determine when the data items 130 are interacted with by users. For instance, this can include observing

[0052] Models can be derived for individuals or groups of individuals at 570 such as via collaborative filtering techniques that develop profiles by the analysis of similarities among individuals or groups of individuals. Similarity computations can be based on the content and/or usage of items. It is noted that modeling infrastructure and associated processing can reside on client, multiple clients, one or more servers, or combinations of servers and clients.

Dumais Uses Collaborative Filtering to Identify Cognate Groups

'217 Patent

Dumais

Claim 1[f]

identify at least one other of the plurality of users that is a recipient of the piece of electronic content and that is cognate to the user, and

compare a user to a set of similar or cognate users rather than to the global population. In regard to how such similarity or identification of the cognate group is determined, one or more of the following approaches may be used: role or group based; collaborative filtering; fingerprinting; cluster models; search-based methods; frequency analysis; and importance value correlation. Each of these different approaches, which may be used singly or in any combination, will now be described in turn.

[0052] Models can be derived for individuals or groups of individuals at 570 such as via collaborative filtering techniques that develop profiles by the analysis of similarities among individuals or groups of individuals. Similarity computations can be based on the content and/or usage of items. It is noted that modeling infrastructure and associated processing can reside on client, multiple clients, one or more servers, or combinations of servers and clients.

[0055] Before proceeding, collaborative filter techniques applied at 570 of the user model 500 are described in more detail. These techniques can include employment of collaborative filters to analyze data and determine profiles for the user. Collaborative filtering systems generally use a centralized database about user preferences to predict additional topics users may desire. Collaborative filtering is applied with the user model 500 to process previous user activities from a group of users that may indicate preferences for a given user that predict likely or possible profiles for new users of a system. Several algorithms including techniques based on correlation coefficients, vector-based similarity calculations, and statistical Bayesian methods can be employed.

Dumais' Email Messages Have "Sender"

Dumais

[0031] The systems and methods described herein support a plurality of data processing applications. This includes processing data items such as documents, files, email messages, calendar appointments, web pages, sub-sections within the data items' or cross-item abstractions, for example. Applying tags to the data items can represent a

[0022] Referring initially to FIG. 1, a system 100 illustrates a data processing architecture that employs user activity or interaction data to perform various computer-related tasks. A monitor component 110 observes data interactions overtime with one or more databases 120 that store one or more data items 130. Monitoring can occur via a background and/or foreground component (not shown) and employed to determine when the data items 130 are interacted with by users. For instance, this can include observing when files are opened or closed, edited, added to or deleted from, read or written to, cut, pasted, last edited, forwarded, replied to, sent to, last viewed, the amount of time viewed, time interacted with over a time horizon, attentional annotations indicating how long the item 130 or different sub-components of the item was the focus of attention, and so forth.

Patent Owner's Response

Dumais to supply this limitation. *E.g.*, Petition, at 1. 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 of the piece of electronic content" limitation; and (2) Dumais also does not disclose "identify[ing]" a user that is both "a recipient" and also "cognate to the user."

As an initial matter, Petitioner's position that Dumais discloses the "identify...a recipient" limitation is based upon an incorrect construction of "recipient" – i.e., one that does not require that the user actually received content sent from a sender. Instead, Petitioner and its expert and its expert define "a recipient" to be any user that "interact[ed]" with, or "used," a data item. Petition, at 33 (citing EX1006, [0022], [0040]); *see also* EX1004, ¶¶245, 247. That definition, however, is incorrect. *See supra* at 20-22; EX2029, ¶¶133 & 170. A POSA would

Sterling's Positions Conflict With Specification

'217 Patent

Patent Owner's Response

As described above, a cognate group may be an important aspect of determining mail relevance in accordance with one or more embodiments. In some cases, a single global value for relevance of a given piece of content may not be the most appropriate measure of its relevance to a given community. For example, an electronic mail object regarding human resource policies might be most relevant to the human resources department, and of less relevance to other users. To improve the accuracy of the algorithm, it may be better to compare a user to a set of similar or cognate users rather than to the global population. In regard to how such similarity or identification of the cognate group is determined, one or more of the following approaches may be used: role or group based; collaborative filtering; fingerprinting; cluster models; search-based methods; frequency analysis; and importance value correlation. Each of these different approaches, which may be used singly or in any combination, will now be described in turn.

The '217 Patent explains why the system needs to “*identify*” this “*cognate*”/“*recipient*” user. EX2029, ¶¶76-87 & 143. Collaborative filtering in Dumais does not do any of this. *Id.* ¶143. Instead, Dumais uses collaborative filtering to “predict likely or possible profiles for new users.” *Id.* ¶143 (citing EX1006, [0055]). Collaborative filtering in Dumais is not used to “*identify*” users both that are similar to the user doing the searching (i.e., another “*user*” that is “*cognate to the user*”) and also received the same content as the first user doing the searching (i.e., another “*user*” that is “*a recipient*”). *Id.* ¶145.

Sterling's Positions Conflict With Specification

'217 Patent

Dumais

As described above, a cognate group may be an important aspect of determining mail relevance in accordance with one or more embodiments. In some cases, a single global value for relevance of a given piece of content may not be the most appropriate measure of its relevance to a given community. For example, an electronic mail object regarding human resource policies might be most relevant to the human resources department, and of less relevance to other users. To improve the accuracy of the algorithm, it may be better to compare a user to a set of similar or cognate users rather than to the global population. In regard to how such similarity or identification of the cognate group is determined, one or more of the following approaches may be used: role or group based; collaborative filtering; fingerprinting; cluster models; search-based methods; frequency analysis; and importance value correlation. Each of these different approaches, which may be used singly or in any combination, will now be described in turn.

[0052] Models can be derived for individuals or groups of individuals at 570 such as via collaborative filtering techniques that develop profiles by the analysis of similarities among individuals or groups of individuals. Similarity computations can be based on the content and/or usage of items. It is noted that modeling infrastructure and associated processing can reside on client, multiple clients, one or more servers, or combinations of servers and clients.

Roadmap

- 1) Claim Construction
- 2) Dr. Khan's Testimony
- 3) Grounds 4–5
- 4) Dumais Is Prior Art
- 5) Grounds 1–3
- 6) Secondary Considerations**

Sterling Fails to Identify Nexus



For objective evidence to be accorded substantial weight, its proponent must establish a **nexus between the evidence and the merits of the claimed invention.**

In re GPAC Inc., 57 F.3d 1573,1580 (Fed. Cir. 1995) (citation omitted)

See Reply at 28.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at **168**

X. Corp EX1074
X. Corp v. Sterling Computers Corp.
IPR2025-00299
Page 168 of 175

Sterling Fails to Identify Nexus

Patent Owner's Response

First, the invention's commercial success demonstrates non-obviousness. X Corp. uses the invention in its product known as "X" (formerly known as, and hereinafter, "Twitter"). For example, Twitter uses the '217 Patent of "cognate" relevancy in its algorithm:

Social Graph

Our first approach is to estimate what you would find relevant by analyzing the engagements of people you follow or those with similar interests.

We traverse the graph of engagements and follows to answer the following questions:

What Tweets did the people I follow recently engage with?

Who likes similar Tweets to me, and what else have they recently liked?

We generate candidate Tweets based on the answers to these questions and rank the resulting Tweets using a logistic regression model.

Sterling's Witnesses Did Not Analyze Twitter/Facebook/Instagram



Justin Marston Depo.

- Q. Have you ever reviewed any source code or code from Twitter?
- A. No.
- Q. Or any products by X Corp.?
- A. Not—well, have I reviewed it? Have I—have I ever touched Twitter up to now or in the time of the patent?
- Q. Source code.
- A. Source code.
- Q. Yeah.
- A. No.
- Q. Have you ever reviewed code for Facebook?
- A. No.
- Q. Or Instagram?
- A. No.

EX1050 at 295:18–296:11; EX1058 at 254: 2–7; EX1064 at 135:5–11; See Reply at 28.

Kahn Depo & Paul Marston Depo.



- Q. I'm asking, have you ever reviewed any source code for Twitter?
- A. No.
- Q. And you've not made any opinions based off of any review of any source code for Meta either?
- A. No.



- Q. Okay. Have you reviewed the source code for Twitter?
- A. No. I don't even know what it is.
- Q. Have you reviewed source code for any products made by Facebook or Meta?
- A. No.
- Q. Okay.
- A. I'm not a source code kind of person.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at 170

No Evidence '217 Patent Tied to Commercial Success

Justin Marston Depo.

Q. I see. You said you—you said that BlueSpace pivoted away from the relational—sorry, the relevance models in the '217 patent into this multi-domain security. Why was that?

A. Money.

Q. Money. And what do you mean by “money”?

A. Well, I mean, as an entrepreneur, you look at what your customers are asking you for, and then you go towards that.

Q. I think my—my question, just to—just to go back to it, though—

A. Sure.

Q. —is you never implemented the patent, right?

A. Correct, yeah.

Q. And the reason you didn't implement the patent was because you pivoted to the multi-security domain?

A. Yes, that's—

Q. Right?

A. Yep, yep.

Twitter Commercially Successful Prior to Ranking Algorithm

Patent Owner's Response

Khan Research Paper

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EX2079. Twitter has realized commercial success using this model, with an estimated 388 million monthly active users in 2024, and generating over \$2 billion in revenue every year from 2016-2024. **EX2080.**

I. INTRODUCTION

Online Social Networks (OSN) are online applications that allow their users to connect by means of various link types. Since its inception in the mid 90s, social networks have provided a way for users to interact, reflecting of social networks or social relations among people, e.g., those who share interests and/or activities. Initially, critics regarded social media as a fad, a temporary fashion. But today, social media has demonstrated exponential growth, making it the most popular activity on the world wide web. As early as 2010, Twitter has recorded a 1,500 percent increase in the number of registered users, and over 70,000 applications have been developed according to the company. From 500,000 messages per quarter in 2007, the company has grown to 4 billion messages per quarter in 2010 (and many more billions in 2014). As the increase in popularity of social networking is on a constant rise, new uses for the technology are continuously being observed. Two major

No Long-Felt Need/Recognition Where Prior Art Solved Problem

Patent Owner's Response

Nike, Inc. v. Adidas AG

Second, the long felt but unresolved needs demonstrates non-obviousness.

The '217 Patent recognized the long felt, but unresolved, need for a system that better determines the relevance of electronic content. The patent discusses, for example, the voluminous amount of electronic content that users receive each day, and the problem that so much of the content "is irrelevant" and, even where ea set

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No consideration of Kircher/Krug, Dumais

1:26-34. It explains that "typical" applications are resigned to providing "unintelligent mechanisms" for mining through the content. **EX1001**, at 35:-44. The need for a more intelligent mechanism for recipients to mine through voluminous electronic content they received was, therefore, identified as a long felt, but unresolved, need.

The Board noted that Nike's arguments and evidence on long-felt need focused solely on Nishida and its response to the problem in the art of making cutting waste less expensive, but ignored the teachings of other asserted prior art references.Thus, the Board found that "any alleged, long-felt need was met by the teachings of at least Schuessler I, namely, knitting textile elements 'without requiring cutting.' " Remand Decision, 2018 WL 4501969, at *12. This finding is supported by substantial evidence in the record.

Nike, Inc. v. Adidas AG, 955 F.3d 45, 55 (Fed. Cir. 2020)

Failure/Praise Is Not Tied to Claims

Patent Owner's Response & ABC News Article

In re GPAC Inc.

Fourth, praise by others demonstrates non-obviousness. For example, when Twitter moved from a reverse-chronological order timeline to a timeline based on showing tweets based upon how relevant they were to the user, Mike Jahr, a senior engineering manager at Twitter, "said the change [in its algorithm] would serve users who follow hundreds or thousands of people with a better experience." **EX2081**.

In a blog post announcing the change, Mike Jahr, a senior engineering manager at Twitter, said the change would serve users who follow hundreds or thousands of people with a better experience, ensuring they don't miss the tweets that may matter most to them.

"We've already seen that people who use this new feature tend to Retweet and Tweet more, creating more live commentary and conversations, which is great for everyone," Jahr wrote.

To check the feature out now, go to the timeline section of settings and choose "show me the best tweets first."

Twitter's team will be turning on the feature for everyone in the coming weeks, Jahr said, and will make it clear with a timeline notification.

"We love it and think you will too. If you don't, send your thoughts our way, and you can easily turn it off in settings," Jahr said.

For objective evidence to be accorded substantial weight, its proponent must establish a **nexus between the evidence and the merits of the claimed invention.**

In re GPAC Inc., 57 F.3d 1573,1580 (Fed. Cir. 1995) (citation omitted)

POR at 55; EX2081 at 3; *See Reply* at 29–30, *Pet. Mot. to Exclude* 12–13.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE – EX1074 at **174**

No Product to Copy

Patent Owner's Response

Justin Marston Depo.



Finally, the copying of the invention by competitors demonstrates non-obviousness. X Corp. copied the invention when it implemented relevancy-based timelines in 2016. **EX2081**; *see also* **EX2084**. Meta copied the invention when Facebook introduced its “algorithmically curated News Feed” in 2011, behaving “more like your own personal newspaper” and featuring “what matters most” (**EX2082**) and when Instagram introduced its “engagement-based feed” in 2016. **EX2083**; *see also* **EX2085**. This copying of the invention by competitors demonstrates non-obviousness.

“Our case law holds copying requires evidence of efforts to replicate a specific product...”

Wyers v. Master Lock Co., 616 F.3d 1231, 1246 (Fed. Cir. 2010)

- Q. —is you never implemented the patent, right?
- A. **Correct, yeah.**
- Q. And the reason you didn't implement the patent was because you pivoted to the multi-security domain?
- A. Yes, that's—
- Q. Right?
- A. Yep, yep.
- Q. Okay. So, I mean, I think that's really the—with—the main questions I was asking—
- A. Okay. Sure.
- Q. —on that. **So—and just to confirm, your other companies didn't have a product like TransMail going forward—**
- A. **No.**
- Q. —or—or a relevance system?
- A. **Correct.**