

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

UIPATH, INC.,

Petitioner,

v.

RULE 14 LLC.,

Patent Owner.

---

Case No. IPR2024-01306  
U.S. Patent No. 11,048,712

---

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

## TABLE OF CONTENTS

|       |                                                                                                                                           |    |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------|----|
| I.    | MANDATORY NOTICES UNDER 37 C.F.R. § 42.8 .....                                                                                            | 1  |
|       | A. Real Party-In-Interest.....                                                                                                            | 1  |
|       | B. Related Matters .....                                                                                                                  | 1  |
|       | C. Lead And Back-up Counsel And Service Information.....                                                                                  | 1  |
|       | D. Standing .....                                                                                                                         | 2  |
| II.   | INTRODUCTION.....                                                                                                                         | 2  |
| III.  | THE SPECIFICATION AND CLAIMS OF THE ‘712 PATENT.....                                                                                      | 2  |
|       | A. Specification Of ‘712 Patent.....                                                                                                      | 2  |
|       | B. Claims Of The ‘712 Patent.....                                                                                                         | 4  |
| IV.   | THE ‘712 PATENT CLAIMS ARE NOT SUPPORTED BY THE<br>EARLIER APPLICATION THAT MATURED INTO THE ‘977<br>PATENT.....                          | 5  |
|       | A. The Independent Claims Of The ‘712 Patent Correspond To The<br>New Subject Matter Added At The Time The ‘712 Patent Was Filed<br>..... | 6  |
|       | B. The Subject Matter Of The Independent Claims Of The ‘712 Patent<br>Was Not Disclosed In Provisional Patent Appl. 61/679,024 .....      | 7  |
|       | C. The Subject Matter Of The Independent Claims Of The ‘712 Patent<br>Was Not Disclosed In Patent Appl. 13/928,313.....                   | 8  |
| V.    | THE PROSECUTION OF THE ‘712 PATENT.....                                                                                                   | 11 |
| VI.   | CLAIM CONSTRUCTION .....                                                                                                                  | 12 |
| VII.  | LEVEL OF ORDINARY SKILL IN THE ART .....                                                                                                  | 14 |
| VIII. | OVERVIEW OF PRIOR ART .....                                                                                                               | 14 |
|       | A. The “Collection Selection” Problem .....                                                                                               | 14 |
|       | B. U.S. Patent No. 6,018,733 - Kirsch .....                                                                                               | 17 |

|                                                                                                                            |    |
|----------------------------------------------------------------------------------------------------------------------------|----|
| C. U.S. Patent Publication No. 2006/0106793 - Liang .....                                                                  | 18 |
| D. U.S. Patent No. 5,721,902 (Schultz).....                                                                                | 22 |
| E. U.S. Patent Publ. No. 2014/0040301 (the ‘301 Publication) .....                                                         | 23 |
| F. U.S. Patent No. 7,765,228 (Eichstaedt).....                                                                             | 24 |
| G. U.S. Patent No. 7,844,603 (Lucovsky).....                                                                               | 25 |
| H. WO Publication No. 01/65336 (Mellin).....                                                                               | 25 |
| I. U.S. Patent No. 7,043,482 (Vinsonneau) .....                                                                            | 25 |
| J. U.S. Patent No. 6,243,713 (Nelson) .....                                                                                | 25 |
| IX. SUMMARY OF GROUNDS FOR UNPATENTABILITY .....                                                                           | 26 |
| X. ALL CHALLENGED CLAIMS ARE OBVIOUS .....                                                                                 | 27 |
| A. Ground 1 - Claims 1, 2, 4-8, 10, 11, 13-17 And 19-20 Are Obvious<br>Over Kirsch, Schultz, Eichstaedt And Lucovsky ..... | 27 |
| 1. Claim 1 .....                                                                                                           | 27 |
| 2. Claims 10 and 19.....                                                                                                   | 34 |
| 3. Claims 2, 11 and 20.....                                                                                                | 34 |
| 4. Claims 4 and 13.....                                                                                                    | 37 |
| 5. Claims 5 and 14.....                                                                                                    | 38 |
| 6. Claims 6 and 15.....                                                                                                    | 39 |
| 7. Claims 7 and 16.....                                                                                                    | 39 |
| 8. Claims 8 and 17 .....                                                                                                   | 40 |
| B. Ground 2 - Claims 1, 4-8, 10, 13-17 And 19 Are Obvious Over<br>Kirsch, Schultz, Eichstaedt And Mellin .....             | 41 |
| 1. Claim 1 .....                                                                                                           | 41 |
| 2. Claims 4-8, 10, 13-17 And 19.....                                                                                       | 41 |
| C. Ground 3 - Claims 2, 11 and 20 Are Obvious Over Kirsch, Schultz,<br>Eichstaedt And Mellin .....                         | 42 |

|                                                                                                                                |    |
|--------------------------------------------------------------------------------------------------------------------------------|----|
| D. Ground 4 - Claims 3 And 12 Are Obvious Over Kirsch, Schultz,<br>Eichstaedt And Lucovsky, In View Of Liang .....             | 44 |
| E. Ground 5 - Claims 9 and 18 Obvious Over Kirsch, Schultz,<br>Eichstaedt And Lucovsky, And Further In View Of Vinsonneau..... | 45 |
| F. Ground 6 - Claims 9 and 18 Obvious Over Kirsch, Schultz,<br>Eichstaedt And Mellin, And Further In View Of Vinsonneau.....   | 46 |
| G. Ground 7 - Claims 1-4, 7-8, 10-13, 16-17 And 19-20 Are<br>Obvious Over Liang, Nelson And Lucovsky .....                     | 46 |
| 1. Claim 1 .....                                                                                                               | 46 |
| 2. Claims 10 and 19.....                                                                                                       | 55 |
| 3. Claims 2, 11 and 20.....                                                                                                    | 55 |
| 4. Claims 3 and 12.....                                                                                                        | 56 |
| 5. Claims 4 and 13.....                                                                                                        | 56 |
| 6. Claims 7 and 16.....                                                                                                        | 57 |
| 7. Claims 8 and 17.....                                                                                                        | 57 |
| H. Ground 8 - Claims 1-8, 10-17 and 19-20 Are Obvious Over Liang,<br>Nelson, Kirsch, Schultz and Lucovsky.....                 | 58 |
| 1. Claims 1, 10 and 19.....                                                                                                    | 58 |
| 2. Claims 2, 11 and 20.....                                                                                                    | 60 |
| 3. Claims 3 and 12.....                                                                                                        | 60 |
| 4. Claims 4 and 13.....                                                                                                        | 60 |
| 5. Claims 5, 14 and 20.....                                                                                                    | 61 |
| 6. Claims 6 and 15.....                                                                                                        | 61 |
| 7. Claims 7 and 16.....                                                                                                        | 61 |
| 8. Claims 8 and 17.....                                                                                                        | 62 |
| I. Ground 9 - Claims 1, 4, 7, 8, 10, 13, 16, 17 and 19 Are Obvious Over<br>Liang, Nelson and Mellin .....                      | 62 |
| 1. Claim 1 .....                                                                                                               | 62 |

|                                                                                                                                               |    |
|-----------------------------------------------------------------------------------------------------------------------------------------------|----|
| 2. Claims 4, 7, 8, 10, 13, 16, 17 and 19.....                                                                                                 | 63 |
| J. Ground 10 - Claims 2, 3, 5, 6, 11, 12, 14, 15 And 20 Are Obvious Over Liang, Nelson and Mellin In Combination With Kirsch And Schultz..... | 63 |
| 1. Claims 2, 11 and 20.....                                                                                                                   | 63 |
| 2. Claims 3, 5, 6, 12, 14 and 15.....                                                                                                         | 64 |
| K. Ground 11 - Claims 9 and 18 Are Obvious Over Liang, Nelson, Lucovsky And Vinsonneau.....                                                   | 64 |
| L. Ground 12 - Claims 9 and 18 Are Obvious Over Liang, Nelson, Lucovsky, Kirsch And Schultz, In View Of Vinsonneau .....                      | 64 |
| M. Ground 13 - Claims 1-20 Are Obvious Over The ‘301 Publication And Schultz.....                                                             | 65 |
| 1. Claim 1 .....                                                                                                                              | 65 |
| 2. Claims 10 and 19.....                                                                                                                      | 69 |
| 3. Claims 2, 11 and 20.....                                                                                                                   | 69 |
| 4. Claims 3 and 12.....                                                                                                                       | 69 |
| 5. Claims 4 and 13.....                                                                                                                       | 69 |
| 6. Claims 5 and 14.....                                                                                                                       | 70 |
| 7. Claims 6 and 15.....                                                                                                                       | 70 |
| 8. Claims 7 and 16.....                                                                                                                       | 70 |
| 9. Claims 8 and 17.....                                                                                                                       | 70 |
| 10. Claims 9 and 18.....                                                                                                                      | 71 |
| XI. THE PARALLEL LITIGATION DOES NOT WARRANT DISCRETIONARY DENIAL.....                                                                        | 71 |
| XII. THE ADVANCED BIONICS FRAMEWORK DOES NOT WARRANT DISCRETIONARY DENIAL.....                                                                | 72 |
| XIII. CONCLUSION .....                                                                                                                        | 73 |

## PETITIONER’S EXHIBIT LIST

| Exhibit  | Description                                                                                                                                                                                               |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ex. 1001 | U.S. Patent No. 11,048,712                                                                                                                                                                                |
| Ex. 1002 | Provisional Application No. 61/679,024, filed on August 2, 2012                                                                                                                                           |
| Ex. 1003 | File History of Patent Appl. 13/928,313, filed June 26, 2013                                                                                                                                              |
| Ex. 1004 | Expert Declaration of Jaideep Srivastava, Ph.D.                                                                                                                                                           |
| Ex. 1005 | Curriculum Vitae of Jaideep Srivastava, Ph.D.                                                                                                                                                             |
| Ex. 1006 | File History of Patent Appl. 16/228,218, filed December 20, 2018                                                                                                                                          |
| Ex. 1007 | J. Callan et al., <i>Searching Distributed Collections With Inference Networks</i> , Presented at the 18th Annual International Conference on Research and Development in Information Retrieval, 1995     |
| Ex. 1008 | Lu et al., <i>Measures in Collection Ranking Evaluation</i> , Technical Report TR-96-39, Computer Science Department, University of Massachusetts, 1996                                                   |
| Ex. 1009 | French et al., <i>Comparing the Performance of Database Selection Algorithms</i> , Proceedings of the 22nd annual international ACM SIGIR conference on research and development in information retrieval |
| Ex. 1010 | D’Souza et al., <i>Collection Selection for Managed Distributed Document Databases</i> , Information Processing & Management, Volume 40, Issue 3 (May, 2004)                                              |
| Ex. 1011 | U.S. Patent No. 6,018,733 (Kirsch et al.)                                                                                                                                                                 |
| Ex. 1012 | U.S. Patent Publication No. 2006/0106793 (Liang)                                                                                                                                                          |
| Ex. 1013 | U.S. Patent No. 5,721,902 (Schultz)                                                                                                                                                                       |
| Ex. 1014 | U.S. Patent Publ. No. 2014/0040301 (‘301 Publication)                                                                                                                                                     |
| Ex. 1015 | U.S. Patent No. 7,765,228 to (Eichstaedt)                                                                                                                                                                 |
| Ex. 1016 | U.S. Patent No. 7,844,603 (Lucovsky)                                                                                                                                                                      |
| Ex. 1017 | WO Publication No. 01/65336 (Mellin)                                                                                                                                                                      |
| Ex. 1018 | U.S. Patent No. 7,043,482 (Vinsonneau)                                                                                                                                                                    |
| Ex. 1019 | U.S. Patent No. 6,243,713 (Nelson)                                                                                                                                                                        |
| Ex. 1020 | Infringement Contentions of Patent Owner in <i>Rule 14, LLC v. UiPath, Inc.</i> , Case No. 2:23-cv-627 (E.D. Tex.)                                                                                        |

| <b>Exhibit</b> | <b>Description</b>                    |
|----------------|---------------------------------------|
| Ex. 1021       | U.S. Patent No. 7,720,870             |
| Ex. 1022       | IDS From U.S. Patent No. 7,720,870    |
| Ex. 1023       | Declaration of Shari Hall White       |
| Ex. 1024       | Declaration of Desiree L. Wolf        |
| Ex. 1025       | Affidavit of Nathaniel E. Frank-White |
| Ex. 1026       | Declaration of Chelsea A. Steadman    |
| Ex. 1027       | U.S. Patent No. 6,243,713             |
| Ex. 1028       | IDS From U.S. Patent No. 6,243,713    |

**I. MANDATORY NOTICES UNDER 37 C.F.R. § 42.8**

**A. Real Party-In-Interest**

The real party-in-interest is the Petitioner, UiPath, Inc.

**B. Related Matters**

U.S. Patent No. 11,048,712 (the ‘712 Patent) is being asserted against the Petitioner in *Rule 14, LLC v. UiPath, Inc.*, Case No. 2:23-cv-627 (E.D. Tex.) (“the Litigation.”) U.S. Patent No. 9,229,977 (the ‘977 Patent) -- which is in the same family as the ‘712 Patent -- is also been asserted against Petitioner in the Litigation. The ‘977 Patent is being challenged in a separately-filed IPR (IPR2024-01304). The ‘712 Patent was previously the subject of an action seeking a Declaratory Judgment of non-infringement filed by Petitioner in *UiPath, Inc. v. Rule 14, LLC and SPX Holdings LLC*, Case No. 3:24-cv-00097 (D. Nevada), which was voluntarily dismissed without prejudice.

**C. Lead And Back-up Counsel And Service Information**

Lead Counsel:

Michael F. Snyder  
VOLPE KOENIG  
30 S. 17<sup>th</sup> St., 18<sup>th</sup> Floor  
Philadelphia, PA 19103

Phone: 215-255-9123  
Fax: 215-568-6400  
msnyder@vklaw.com  
Reg. No. 58,347

Backup Counsel

Ryan O’Donnell

Phone: 215-255-9109

VOLPE KOENIG  
30 S. 17<sup>th</sup> St., 18<sup>th</sup> Floor  
Philadelphia, PA 19103

Fax: 215-568-6400  
rodonnell@vklaw.com  
Reg. No. 53,401

Daniel H. Golub  
VOLPE KOENIG  
30 S. 17<sup>th</sup> St., 18<sup>th</sup> Floor  
Philadelphia, PA 19103

Phone: 215-255-9194  
Fax: 215-568-6400  
dgolub@vklaw.com  
Reg. No. 33,701

Please address all correspondence to lead and back-up counsel. Petitioner consents to email service and asks Patent Owner to do the same.

#### **D. Standing**

Petitioner certifies that the ‘712 Patent is eligible for *inter partes* review (IPR) and Petitioner is not barred or estopped from requesting an IPR.

### **II. INTRODUCTION**

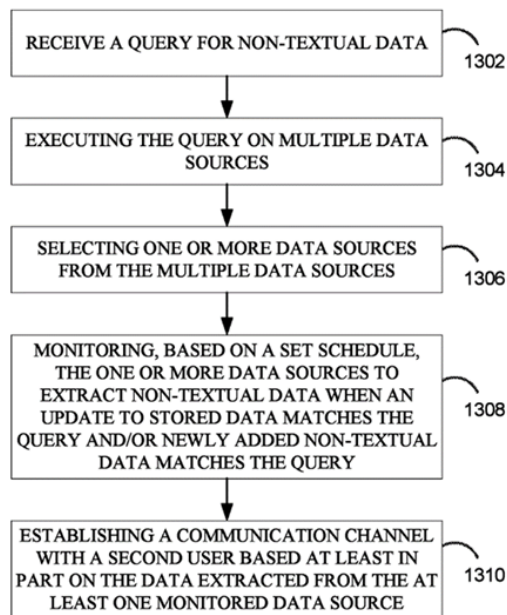
This IPR challenges claims 1-20 (“Challenged Claims”) of the ‘712 Patent, which claims a system in which a user submits a query for non-textual data (e.g., images) to a plurality of data sources and, based on the results, selects one or more of the data sources to monitor for updates. As explained below, these concepts existed in the prior art.

### **III. THE SPECIFICATION AND CLAIMS OF THE ‘712 PATENT**

#### **A. Specification Of ‘712 Patent**

The specification of the ‘712 Patent describes “a data mining system” in which “a query” for “non-textual data” is “generated by a user.” Ex. 1001, 4:39-47. The “non-textual data” could be an image, video or audio. *Id.*, 4:36-37. The query is

“expanded” by, for example, supplementing the query terms with synonyms. *Id.*, 4:51-57. Next, multiple “data sources” are searched using the query and “the results of the query are reviewed.” *Id.*, 4:66-5:3; 5:27. “If the results are satisfactory, specific data sources may be selected to be monitored” periodically for updates. *Id.*, 5:27-29. Monitoring results are communicated to users by “establishing a communication channel,” which means sending an “email” or “short message service (SMS)” to users. *Id.*, 5:41-43, 14:56-59; Ex. 1004, ¶29. These steps are shown in Figure 13 (below) of the ‘712 Patent:



## B. Claims Of The ‘712 Patent

Claim 1 of the ‘712 Patent is representative and closely tracks Figure 13 (above) (Ex. 1004, ¶30):

1. A method of analyzing data, comprising:  
receiving, from a first user, a query for non-textual data;  
expanding search terms of the query;  
executing the query on a plurality of data sources;  
selecting at least one data source from the plurality of data sources, the  
at least one data source being selected when results of the query  
are greater than or equal to an accuracy thresholds;  
monitoring, based on a set schedule, the at least one data source to  
extract non-textual data from the at least one data source when at  
least an update to stored data matches the query, newly added  
non-textual data matches the query, or a combination thereof;  
and  
establishing a communication channel with a second user based at least  
in part on the data extracted from the at least one monitored data  
source.

The “selecting” step in Claim 1 recites that data source(s) are selected “when results of the query are greater than or equal to an accuracy thresholds.” (emphasis added). While the specification does not define “an accuracy thresholds,” the specification equates the relevancy of the search results with the accuracy of the search results:

... As previously discussed, at the results module 502, the user selects relevant results for processing (e.g., calibration). That is, the user may judge the results for accuracy based on the intent of the query. Ex. 1001, 12:25-28 (emphasis added).

Similarly, in the Litigation, the Patent Owner has equated “an accuracy thresholds” with relevancy:

... UiPath Communication Mining selects at least one data source ... when results of the query are greater than or equal to an accuracy thresholds, including by selecting a data source with information that is considered “most relevant” to the query. Ex. 1020, at 35 (emphasis added).

It is clear that in the context of the ‘712 Patent, a “relevancy” threshold is an example of “an accuracy thresholds.” Ex. 1004, ¶¶31-32.

#### **IV. THE ‘712 PATENT CLAIMS ARE NOT SUPPORTED BY THE ‘313 APPLICATION OR THE PROVISIONAL APPLICATION**

The ‘712 Patent was filed as a continuation-in-part of Application No. 14/960,316, filed on December 4, 2015 (the ‘316 Application), which is a continuation-in-part of Application No. 13/928,313, filed June 26, 2013 (the ‘313 Application”) (now the ‘977 Patent), which in turn claimed priority to Provisional Application No. 61/679,024, filed on August 2, 2012 (the “Provisional Application”). Ex. 1004, ¶33. Neither the Provisional Application nor the ‘313 Application provide written description support for the Claims of the ‘712 Patent. Therefore, the effective filing date of the ‘712 Patent is no earlier than December 4, 2015 -- the filing date of Application No. 14/960,316.<sup>1</sup> *Id.*, ¶34.

A claim is not entitled to the benefit of an earlier filed application unless the subject matter of the claim is disclosed in the manner provided by 35 U.S.C. § 112

---

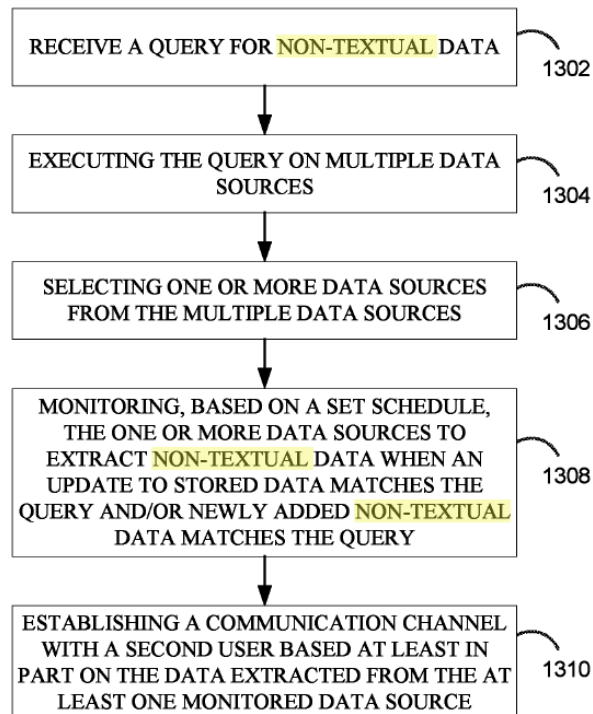
<sup>1</sup> Petitioner does not concede that the Challenged Claims are supported by the '316 Application. For purposes of this Petition, it is unnecessary to determine whether the Claims of the '712 Patent are supported by the '316 Application.

in the earlier filed application. *See, e.g., D Three Enters., LLC v. SunModo Corp.*, 890 F.3d 1042, 1046-47 (Fed. Cir. 2018). To comply with the written description requirement, an application must “reasonably convey [] to those skilled in the art that the inventor had possession of” and “actually invented” the claimed subject matter. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (*en banc*).

The test for adequate written description support “requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art.” *Ariad*, 598 F.3d at 1351. Although the specification need not “recite the claimed invention *in haec verba*, a description that merely renders the invention obvious does not satisfy the [written description] requirement.” *Id.* at 1352; *see also Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1571-72 (Fed. Cir. 1997).

**A. The Independent Claims Of The ‘712 Patent Correspond To The New Subject Matter Added At The Time The ‘712 Patent Was Filed**

The independent claims of the ‘712 Patent recite searching and monitoring for “non-textual data,” as disclosed in Figure 13 of the ‘712 Patent, reproduced below (highlighting added by Petitioner):



(Ex. 1004, ¶35).

Figure 13 and its accompanying description were added to the specification when the ‘712 Patent was filed, and thus neither Figure 13 nor its accompanying description were included in any of the earlier applications to which priority is claimed. The description of Figure 13 (added when the ‘712 Patent was filed) closely tracks the language of Claim 1 (and the other independent claims) of the ‘712 Patent. *Id.*

**B. The Subject Matter Of The Independent Claims Of The ‘712 Patent Was Not Disclosed In Provisional Patent Appl. 61/679,024**

The Provisional Application was a one-page document directed to loss prevention, depicted below:

## RULE14™ LOSS PREVENTION SERVICES

Introducing a new and innovative way to prevent loss combining extensive customer intelligence with an automated system for you and your customers to communicate more effectively with one another.

Rule14™ LPS uses four integrated modules:



Listen™ - finds the events and topics that concern your customers which are gathered from a myriad of channels where customers are discussing your service



Pulse™ - takes these critical topics and generates a dashboard of actionable intelligence so you can understand your customers and where they're headed



Reachout™ - uses this actionable intelligence to communicate effectively and directly with each one of your customers to improve satisfaction and recoveries



Speakout™ - to easily generate and garner feedback from any customer on any topic

Property of Rule14, LLC | Proprietary and Confidential



Ex. 1002, at 14. Nothing in the Provisional Application discloses the “non-textual data” limitations in the claims of the ‘712 Patent. Ex. 1004, ¶¶37-38.

### **C. The Subject Matter Of The Independent Claims Of The ‘712 Patent Was Not Disclosed In Patent Appl. 13/928,313**

The ‘313 Application -- which matured in the ‘977 Patent -- makes no mention of “non-textual data.” Ex. 1003, 233-280. While the ‘313 Application discusses the use of a “sentry” that identifies a phrase (i.e., text) that happens to be included in an image posted on a data source (*id.*, at 255, 279 ([00106], Figure 11)), that disclosure

fails to provide written description support for the independent claims of the ‘712 Patent for at least four reasons:

First, the independent claims of the ‘712 Patent recite that a query for non-textual data is received from the first user. Nothing in the discussion of Figure 11 in the ‘313 Application states that the first user is querying for non-textual data. Rather, the description of Figure 11 teaches that the text embedded within the image is being queried. *Id.*, at [00106] (“[t]he sentry may identify a phrase from a message and/or image posted on a data source, such as a message board and/or a social media site. The post may include an image 1104 and text 1106. ... Once the post 1102 has been identified, the text 1106 may be analyzed by a data analysis module.”) Simply put, querying for text embedded in an image is not querying for “non-textual data.” Ex. 1004, ¶¶39-40. The ‘313 Application does not state that any “non-textual” aspects of the image are queried. *Id.*; *Purdue Pharma L.P. v. Faulding Inc.*, 230 F.3d 1320, 1323 (Fed. Cir. 2000)(“one skilled in the art, reading the original disclosure, must immediately discern the limitation at issue in the claims.”)(emphasis added).

Second, there is no discussion in connection with Figure 11 of the ‘313 Application that one or more data sources are selected based on results of a “query for non-textual data,” as required by the independent claims of the ‘712 Patent. In describing Figure 11, the ‘313 Application states only that “the results may be analyzed by a data analysis module or a sentiment module.” Ex. 1003, at 255-256,

¶[00106]. A generic reference to “analyzing results” is insufficient to provide written description support for selecting data sources based on results of a query for non-textual data, as claimed. Ex. 1004, ¶41; *Lockwood*, 107 F.3d 1565, 1571-72 (“[e]ntitlement to a filing date does not extend to subject matter which is not disclosed but would be obvious over what is expressly disclosed. It extends only to that which is disclosed.”)

Third, the ‘313 Application fails to connect the concept of “an accuracy thresholds” to “a query for non-textual data,” as claimed. In fact, there is no disclosure in the ‘313 Application as to how a POSITA would go about determining “an accuracy thresholds” in the case of a query for “non-textual data.” Ex. 1004, ¶42.

Fourth, the ‘313 Application fails to describe extracting non-textual data from a data source, as claimed. In connection with Figure 11, the ‘313 Patent states only that textual information identifying the user of the post is extracted. See, Ex. 1003, at 255, ¶[00106] (“the text may be analyzed ...”) and ¶[00114] (“the information that is extracted may include the username, actual name, age, location, and/or any other information related to the user that posted the data.”). The ‘313 Application does not disclose that non-textual aspects of the image are either extracted or provided to a second user, as claimed. Ex. 1004, ¶43.

The independent claims of the ‘712 Patent are not supported by the ‘313 Application. Since neither the Provisional Application nor the ‘313 Application provide written description support for the independent claims of the ‘712 Patent, the effective filing date of the ‘712 Patent is no earlier than December 4, 2015 -- the filing date of Application No. 14/960,316. Ex. 1004, ¶44.

## **V. THE PROSECUTION OF THE ‘712 PATENT**

During prosecution, the effective filing date of the claims was not raised. Ex. 1004, ¶45. The prosecution was limited to one Office Action consisting of double patenting rejections over, *inter alia*, the ‘977 Patent. As the Examiner recognized, the claims of the ‘712 Patent were not patentably distinct from those of the ‘977 Patent, because searching non-textual data was well known in the prior art. *See*, Office Action dated October 6, 2020, at 3-4 (Ex. 1006, at 91) (“US Patent Application 20120158739 by Ah-Pine et. al. ... discloses “the non-textual data comprises at least one of an image, audio, a video, or combination thereof” ... It would have been obvious ... to have applied image, audio, video, or combination thereof for non-textual data based on the disclosure Ah-Pine for the purpose of querying and retrieving those objects.”) The Patent Owner acquiesced in the double-patenting rejection by submitting a terminal disclaimer, thereby conceding that all of Claims of the ‘712 Patent are obvious based on the ‘977 Patent in combination

with art such as Ah-Pine that teaches non-textual data. Ex. 1006, at 82-83; Ex. 1004, ¶46.

The Examiner allowed the Application in the next Office Action, finding that the prior art of record failed to show (i) selecting a data source from a plurality of data sources based on the accuracy (relevancy) of search results from the selected data source, (2) monitoring the selected data source(s) for updates, and (3) establishing a communication channel by, e.g., sending an email to a user alerting them of the update. Ex. 1006, at 23-24. The reasons for allowance were not based on the requirement of “non-textual data” in the claims. Ex. 1004, ¶47.

## **VI. CLAIM CONSTRUCTION**

Claim terms are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art (POSITA). Only those claim terms that are in controversy need to be construed, and only to the extent necessary to resolve the controversy. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017).

The Petition must identify “[h]ow the challenged claim is to be construed.” 37 C.F.R. § 42.104(b)(3). Where it is apparent that claim construction may be hotly disputed in District Court proceedings (as is the case here) a Petitioner may present “alternative rationales for why the claims are unpatentable.” *See Google LLC v. Security First Innovations, LLC*, IPR2024-00214, Paper 16 at 12 (PTAB May 23,

2024). The rule “does not require Petitioner to express its subjective agreement regarding correctness of its proffered claim constructions or to take ownership of those constructions.” *Western Digital Corp. v. SPEX Techs., Inc.*, IPR2018-00084, Paper 14 at 11 (PTAB Apr. 25, 2018).

**a. “expand[ing]search terms of the query”**

The specification describes “expanding the search terms of the query” as an exercise whereby a lexicographical analysis is used to “expand” the search terms. Ex. 1001, 4:51–55, 7:11–13 and 7:17–21. The specification also states that when the query includes an image, “the query is expanded to use various beach images.” *Id.*, at 4:62-65. In the Litigation, Patent Owner has advanced an understanding of this term that is so broad as to be untethered to a lexicographical analysis, arguing that practically any action taken with respect to a query somehow constitutes “expansion” of the query. Ex. 1020, at 31-36. However, since the parties agree that the claims cover a lexicographical analysis, and the prior art relied on below discloses such an analysis, the Board need not resolve this claim construction dispute.<sup>2</sup>

**b. “accuracy threshold”**

---

<sup>2</sup> UiPath previously contended in the district court that this claim element was governed by 35 U.S.C. 112(f). UiPath has withdrawn this contention and does not believe that this term should be construed as governed by 35 U.S.C. 112(f).

The specification does not expressly define an “accuracy threshold.” In the Litigation, Patent Owner has contended that “any measurable threshold” constitutes an “accuracy threshold.” Petitioner’s position is that the plain meaning of the term requires that the threshold relate to some level of “accuracy.” However, since the prior art relied below meets this element under either party’s understanding, the dispute need not be addressed by the Board.<sup>3</sup>

## **VII. LEVEL OF ORDINARY SKILL IN THE ART**

A POSITA as of December 4, 2015 (the earliest possible priority date of the ‘712 Patent) would have had a working knowledge of techniques for querying and monitoring data sources as pertinent to the ‘712 Patent. A POSITA would have had a bachelor’s degree in electrical engineering, computer science, or equivalent training, and approximately two years of work experience in software development with a basic knowledge of database searching techniques. Ex. 1004, ¶28.

## **VIII. OVERVIEW OF PRIOR ART**

### **A. The “Collection Selection” Problem**

By 1995, hundreds of different data sources (referred to as “collections”) had become available on the Internet, but it was impractical to search all of them for a given topic. The problem presented back in 1995 -- named the “collection selection”

---

<sup>3</sup> UiPath reserves the right to argue that the claim term is indefinite and/or not supported by the Written Description in proceedings before the U.S. District Court, however, the Board need not address the issue in this petition.

problem -- was how to narrow a search to a few useful collections. Ex. 1004, ¶49.

As one author explained:

Users of commercial retrospective information retrieval systems have always faced the collection selection problem. The user must either search all collections or choose the subset to be searched.

(Ex. 1007, the “Callan Paper,” at 1) (emphasis added).<sup>4</sup> The Callan Paper proposed the following four-step solution to the “collection selection” problem:

1. Use the query to retrieve a ranked list of collections,
2. Select the top group of collections,
3. Search the top group of selections, in parallel or sequentially, and
4. Merge the results from the various collections into a single ranking.

*Id.*, at 2; Ex. 1004, ¶50.

In 1996, the Callan Paper was cited (as reference 1) in Ex. 1008 (the “Lu Paper”),<sup>5</sup> which also described the “collection selection” problem:

As hundreds or even thousands of collections become available on the Internet, it is practically impossible to query all of them ... Consequently the need to narrow the search to a few useful collections raises the issue of how to locate the most useful collections. ... In this paper, we survey the measures for collection ranking used in the current research ... Ex. 1008, at 1 (emphasis added).

---

<sup>4</sup> The Callan Paper ( Ex. 1007) has a copyright date of “© 1995” and was publicly available at least as of May 18, 2010 when it was cited in an issued patent. Ex. 1021 at 1; Ex. 1022, at 5, 9; Ex. 1023, at ¶¶ 3-8; 37 CFR § 1.11, Fed. R. Ev. 803(8).

<sup>5</sup> The Lu Paper has a publication date of 1996 and was publicly available at least as of June 5, 2001 when it was cited in an issued patent. Ex. 1027 at 2; Ex. 1028 at 5; Ex. 1024, ¶¶ 2-7 (Exs. A-E).

(Ex. 1004, ¶51). The Lu Paper described methods for ranking collections, including methods that scored collections based on relevancy. *Id.*, at 2-8; Ex. 1004, ¶52.

In 1999, the Lu Paper was cited (as reference 17) in Ex. 1009 (the “French Paper”).<sup>6</sup> There, the authors again addressed the “collection selection” problem by comparing the *gGLOSS* approach which ranked databases based on a “goodness” score that was a function of the similarities between the query and documents in a database, and the *CORI* approach which ranked databases by analyzing the query against the frequency of terms appearing in the database. *Id.*, at 2; Ex. 1004, ¶53.

In 2004, the French Paper was cited in Ex. 1010 (“D’Souza”),<sup>7,8</sup> which described further solutions to the “collection selection” problem:

Broadcasting queries to all collections could well be costly or impractical, thus it is attractive to first rank the collections in the database ... The user can then query the top-ranked collections directly ... *Ranking the collections then provides a form of collection selection.* Ex. 1010, at 2 (emphasis added).

(Ex. 1004, ¶54).

---

<sup>6</sup> The French Paper was publicly available at least as of March 29, 2004. Ex. 1025, ¶¶ 2-7; Ex. 1024, ¶¶ 8-18 (Exs. F-K).

<sup>7</sup> See, list of References in D’Souza et al., Ex. 1010, at 19.

<sup>8</sup> D’Souza was publicly available at least as of 2004 and a copy of D’Souza was obtained directly from the publisher. See Ex. 1026, ¶¶2-5.

D'Souza et al. observed that long queries “generated by query expansion” are “better at collection selection.” Ex. 1010, at 4 (emphasis added); Ex. 1004, ¶55.

By 2004, the “collection selection” problem had been written about extensively, and numerous solutions had been developed. Ex. 1004, ¶¶49-56.

**B. U.S. Patent No. 6,018,733 - Kirsch**

U.S. Patent No. 6,018,733 entitled “Methods for Iteratively Performing Collection Selection In Full Text Searches” (Kirsch) explained that “[w]hile access to much of the information available through the Internet is free for public use, numerous proprietary or fee-based access document collections exist.” Ex. 1011, 1:32-35. Kirsch noted that the “collection selection” problem “is complicated further when the opportunity and desire exists to search any combination of public and private document collections.” *Id.*, at 2:21-23; Ex. 1004, ¶57.

In Kirsch, a user query “formed using any combination of a free text” (Ex. 1011, 6:40-43) is “expanded as appropriate into a list of specifically identified search terms.” *Id.*, 7:6-7. Kirsch disclosed a plurality of different “document collections,” each of which is a “data source.”<sup>9</sup> Kirsch taught initially directing the query against multiple document collections. *Id.*, at 14:48-50 (“the user query 84 is preconditioned upon issuance from the user workstation 82 to specify the particular set of

---

<sup>9</sup> Kirsch equates “document collections” with information (or data) sources. *See*, Ex. 1011, at 1:33-43 (“Private document collections are likely to continue to exist as significant sources of unique information.”)(emphasis added).

collections 88, 90, 92 that the query is to be resolved against.") Kirsch taught that the user query was then "used to select a qualified set of most likely relevant document collections." *Id.*, 6:29-30 and 10:19-21 ("the present invention supports automatic ... collection selection."); Ex. 1004, ¶58.

In Kirsch, the selection of a document collection from the set of collections was based on the document collection exceeding a relevance score and a rank. In order for a document collection to be selected, the collection needed to meet a "minimum level of relevance." Ex. 1011, 12:11-12; 9:67-10:4 (discussing a "minimum relevance ranking threshold.") A further "post-search constraint" required a selected collection to rank high enough to fall within a "maximum number of collections returned." *Id.*, 12:11-12; Ex. 1004, ¶59.

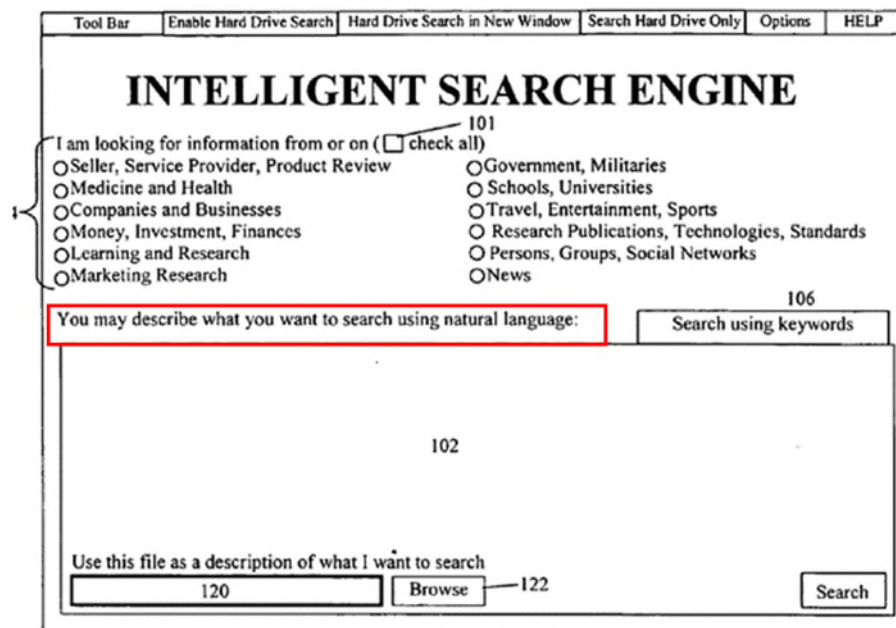
### **C. U.S. Patent Publication No. 2006/0106793 - Liang**

U.S. Patent Publ. No. 2006/0106793 ("Liang") (Ex. 1012) disclosed an "Intelligent Search Engine," which could be used for, *inter alia*, querying non-textual data such as images (Ex. 1004, ¶ 60):



Ex. 1012, Figure 5 (red box added by Petitioner).

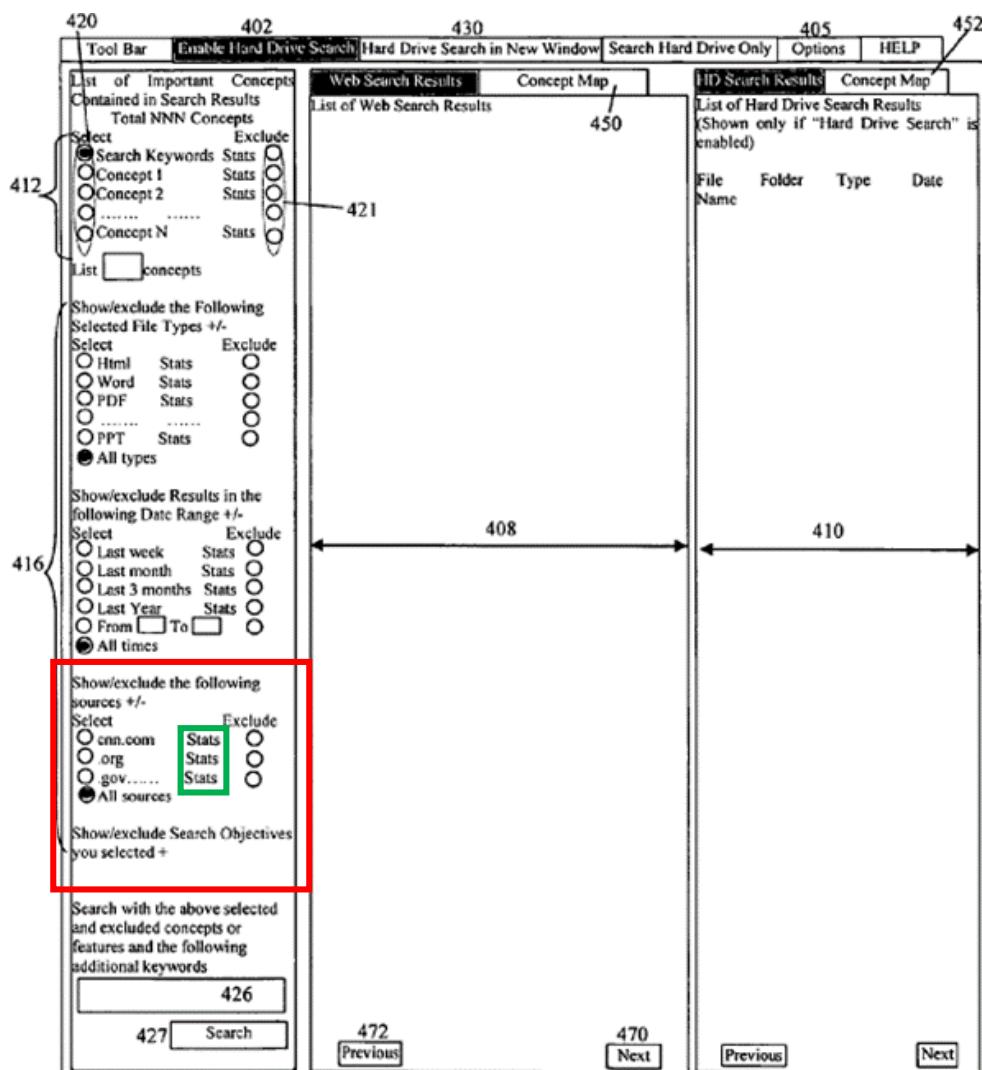
Figure 1 of Liang (shown below with red box added by Petitioner) illustrates an embodiment of Liang's user interface:



As shown above, Liang included a user interface through which a user could enter a natural language search query (red box). Liang also taught expanding search

keywords using synonyms.<sup>10</sup> Ex. 1012, [0013]; Ex. 1004, ¶61.

Liang taught execution of the query on multiple sources (see red box below added by Petitioner), as depicted in Figure 4 of the reference shown below:



Ex. 1004, ¶¶62-63. Liang states that “sections 416 allow a user to filter the search results by file types, dates of modification, [and] sources.” Ex. 1012, [0178]

<sup>10</sup> Liang taught expanding search terms with “synsets.” Ex. 1012, [0013]. A synset is a set of synonyms. Ex. 1004, ¶61 (note 5).

(emphasis added). Liang also provides “Stats” (see green box in Figure 4 above) for each of the data sources that were searched which reflect statistics, such as “the total number of appearances of an important concept in the search results.” *Id.*, [0184]; Ex. 1004, ¶64.

Liang provides users functionality to monitor data sources for updates, and to receive an alert (e.g., by email) when changes are detected. This aspect is disclosed in Figure 1 of Liang (reproduced below, red box added):

Tool Bar Enable Hard Drive Search Hard Drive Search in New Window Search Hard Drive Only Options HELP

## INTELLIGENT SEARCH ENGINE

I am looking for information from or on ( ☐ check all )

☐ Seller, Service Provider, Product Review  
☐ Medicine and Health  
☐ Companies and Businesses  
☐ Money, Investment, Finances  
☐ Learning and Research  
☐ Marketing Research

☐ Government, Militaries  
☐ Schools, Universities  
☐ Travel, Entertainment, Sports  
☐ Research Publications, Technologies, Standards  
☐ Persons, Groups, Social Networks  
☐ News

You may describe what you want to search using natural language:  Search using keywords

102

Use this file as a description of what I want to search

**More Options:**

Search for information that was updated ☐ Anytime ☐ Past Week ☐ Past Month ☐ Past 3 months ☐ Past 6 Months ☐ Past Year ☐ Past 3 Years

You want this search to be active from  Today or Month Day Year to Month Day Year (If no date is selected, it is treated as a one-time search)

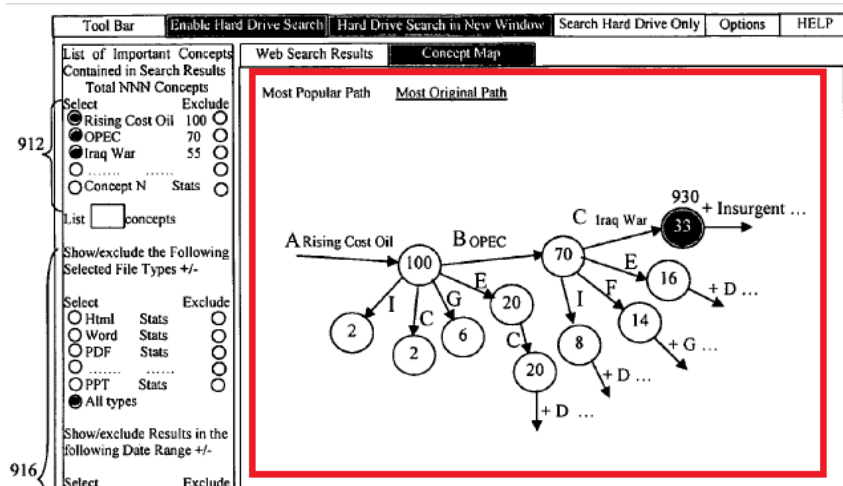
You will receive an alert on your desktop when new sources or changes are detected. If you want also to receive an email alert, please enter your email address

(Ex, 1004, ¶65).

With respect to Figure 1, Liang stated that “it offers a user ... the option to keep his search active for a period of time to monitor for new sources and changes to existing sources ... and when a change is detected, the option to alert the user on his local PC.” Ex. 1012, [0052] (emphasis added). Liang also taught that “the

monitoring frequency may be chosen” by the user. *Id.*, [0347] (emphasis added). Ex. 1004, ¶66.

Liang further taught techniques for visualization of search results, as shown in Figure 9 (shown in part below, red box added) (Ex. 1004, ¶67):



#### D. U.S. Patent No. 5,721,902 (Schultz)

U.S. Patent No. 5,721,902 to Schultz (Schultz) (Ex. 1013) taught querying for both textual data and non-textual data such as images. Ex. 1013, 12:49-53; *see also*, 12:66-13:4. Ex. 1004, ¶68. In response to the query, Schultz returned a results list to the user including “the relevance scores corresponding to each document identification number on the search results list” (see item 342 in red boxes below) and “an indication whether the document file corresponds to a textual document or a multi-media file such as, for example, a file representing a still image” (see item 344 in green boxes below). *Id.*, 14:29-37 (emphasis added); Ex. 1004, ¶69.

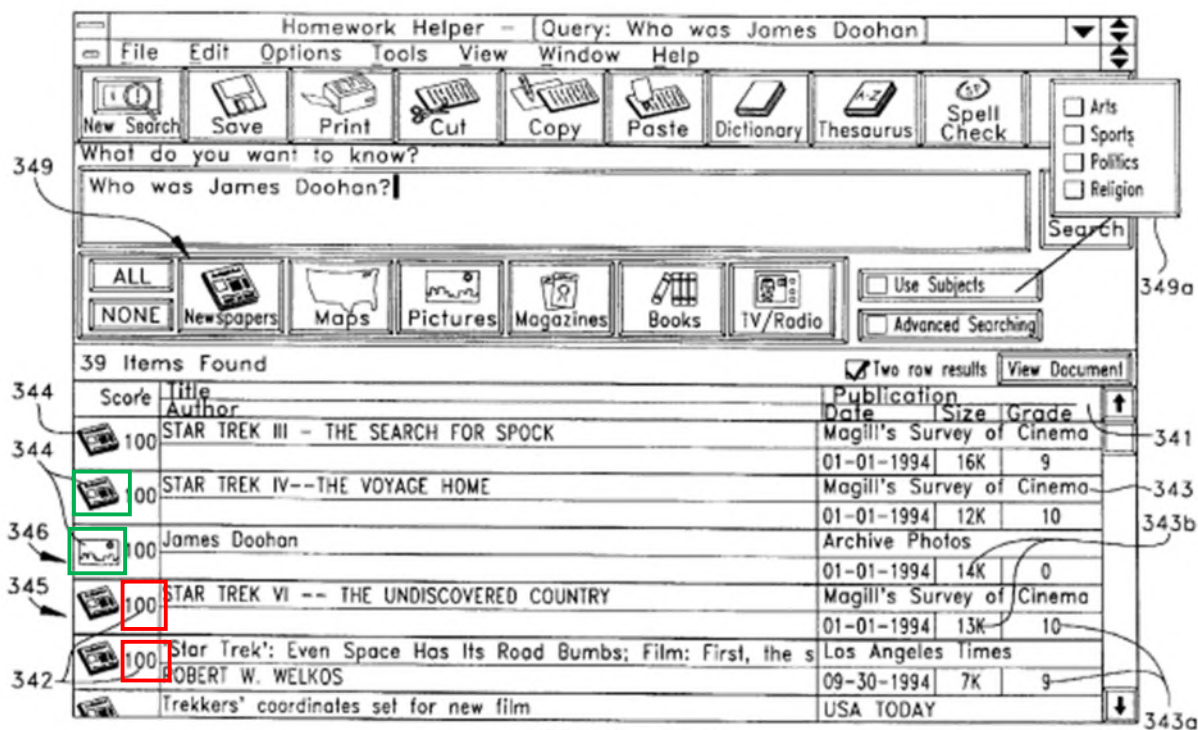
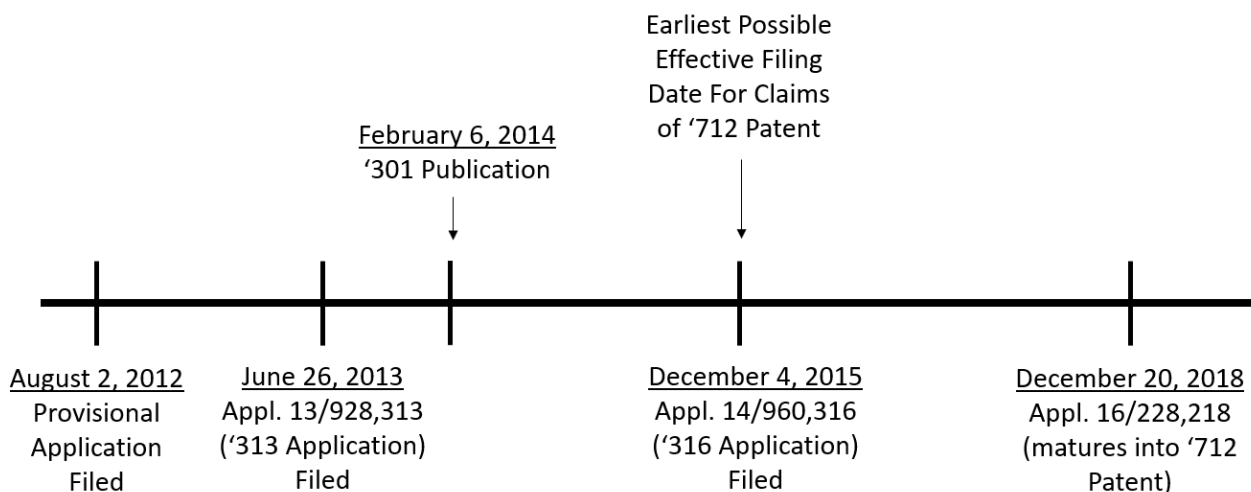


FIG. 4A

Schultz also taught that the results list can be sent from a server to a user over a communication channel, and the user can then provide feedback by clicking on a particular search result causing the server to return the corresponding document to the user over the same communication channel. Ex. 1013, 14:13-15:16; Ex. 1004, ¶70.

#### E. U.S. Patent Publ. No. 2014/0040301 (the '301 Publication)

The '313 Application (discussed in Section IV(C)) was published on February 6, 2014 as U.S. Patent Publ. No. 2014/0040301 ("the '301 Publication")(Ex. 1014). The timeline below depicts the sequence of applications to which the '712 Patent claims priority, along with the publication date of the '301 Publication.



(Ex. 1004, ¶71).

The publication date of the '301 Publication is more than one year before the earliest possible effective filing date of the '712 Patent. Ex. 1004, ¶72. The '301 Publication (which matured into the '977 Patent) is prior art to the '712 Patent. *See, In re Chu*, 66 F.3d 292, 296–97 (Fed. Cir. 1995) (even though Chu’s “application claims to be a CIP of the Doyle patent,” some claims were not supported by Doyle alone, so for those claims “the Doyle patent was properly relied on as prior art.”)

There is no evidence that the Examiner considered the '301 Publication for prior art purposes during prosecution of the '712 Patent.

#### **F. U.S. Patent No. 7,765,228 (Eichstaedt)**

U.S. Patent No. 7,765,228 to Eichstaedt et al. taught servers that “compare old query results” to “current content item(s)” after a “predefined period” and deliver an email alert to the user with the new content item. Ex. 1015, 8:19-20, 8:37-54 and Figures 5-6; Ex. 1004, ¶74.

**G. U.S. Patent No. 7,844,603 (Lucovsky)**

U.S. Patent 7,844,603 to Lucovsky (Lucovsky) entitled “Sharing User Distributed Search Results” discloses mechanisms by which a first user could share search results with a second user. Ex. 1016, at Figures 4-9; Ex. 1004, ¶75.

**H. WO Publication No. 01/65336 (Mellin)**

WO Publication No. 01/65336 (Mellin), taught the use of an email address directed to a group in order to facilitate dissemination of information to all members of the group. Ex. 1017, e.g., at 3:24-26; Ex. 1004, ¶76.

**I. U.S. Patent No. 7,043,482 (Vinsonneau)**

U.S. Patent No. 7,043,482 (Vinsonneau) taught a method for querying data banks where the number of bots used to process search queries depends on the volume or quantity of data being searched. Ex. 1018, 4:8-9; Ex. 1004, ¶77.

**J. U.S. Patent No. 6,243,713 (Nelson)**

U.S. Patent No. 6,243,713 (Nelson) disclosed use of a query that included an image (“query image”). Ex. 1019, at 3:6-17. The query can include “query feature operators 154 such as “/shape’ and “/color” ... to selectively define which aspects of the query images are of interest.” *Id.*, at 6:35-56. The query can be expanded to include “other images (or image attributes) of similar shape or color, texture ... .” *Id.*, at 7:14-21; Ex. 1004, ¶77.

## IX. SUMMARY OF GROUNDS FOR UNPATENTABILITY

| Ground | Claim(s)                           | Combinations of References Rendering the Challenged Claims Invalid Under 35 U.S.C. §103 |
|--------|------------------------------------|-----------------------------------------------------------------------------------------|
| 1      | 1, 2, 4-8, 10, 11, 13-17 and 19-20 | Kirsch, Schultz, Eichstaedt and Lucovsky                                                |
| 2      | 1, 4-8, 10, 13-17 and 19           | Kirsch, Schultz, Eichstaedt and Mellin                                                  |
| 3      | 2, 11 and 20                       | Kirsch, Schultz, Eichstaedt and Mellin                                                  |
| 4      | 3 and 12                           | Kirsch, Schultz, Eichstaedt and Lucovsky, in view of Liang                              |
| 5      | 9 and 18                           | Kirsch, Schultz, Eichstaedt and Lucovsky, in view of Vinsonneau                         |
| 6      | 9 and 18                           | Kirsch, Schultz, Eichstaedt and Mellin, in view of Vinsonneau                           |
| 7      | 1-4, 7-8, 10-13, 16-17 and 19-20   | Liang, Nelson and Lucovsky                                                              |
| 8      | 1-8, 10-17 and 19-20               | Liang, Nelson, Kirsch, Schultz and Lucovsky                                             |
| 9      | 1, 4, 7, 8, 10, 13, 16, 17 and 19  | Liang, Nelson and Mellin                                                                |
| 10     | 2, 3, 5, 6, 11, 12, 14, 15 and 20  | Liang, Nelson, Mellin, Kirsch And Schultz                                               |
| 11     | 9 and 18                           | Liang, Nelson, Lucovsky and Vinsonneau                                                  |
| 12     | 9 and 18                           | Liang, Nelson, Kirsch, Schultz and Lucovsky, in view of Vinsonneau                      |
| 13     | 1-20                               | '301 Publication and Schultz                                                            |

## **X. ALL CHALLENGED CLAIMS ARE OBVIOUS**

### **A. Ground 1 - Claims 1, 2, 4-8, 10, 11, 13-17 And 19-20 Are Obvious Over Kirsch, Schultz, Eichstaedt And Lucovsky**

#### **1. Claim 1**

As explained below, all elements of Claim 1 are met by Kirsch, Schultz, Eichstaedt and Lucovsky. Ex. 1004, ¶78.

##### **a. Element 1.1 - “A method of analyzing data”**

To the extent the preamble is limiting, Kirsch teaches a method for searching databases, which maps to “[a] method of analyzing data.” Ex. 1011, 7:47-49 (search terms are provided “for analysis against a collection meta-index 16.”)(emphasis added). When Kirsch selects the “most likely relevant documents from the identified collection set” (*id.*, 6:34-37), it is also “analyzing data.” Ex. 1004, ¶79.

##### **b. Element 1.2 - “receiving, from a first user, a query for non-textual data”**

Kirsch taught a user query for querying documents. Ex. 1011, 6:40-43. Schultz taught a user query for querying non-textual data such as images. Ex. 1013, 12:49-53 and 12:66-13:4. Kirsch and Schultz both relate to search technology, and it would have been obvious to incorporate Schultz’s techniques for querying non-textual image data into Kirsch. A POSITA would have been motivated to combine the references in order to apply Kirsch’s collection selection techniques to

collections that included image data. A POSITA would have had a reasonable expectation of success with respect to this combination. Ex. 1004, ¶80.

**c. Element 1.3 - “expanding search terms of the query”**

Kirsch teaches that “search terms are thus ... expanded as appropriate into a list of specifically identified search terms.” Ex. 1011, 7:6-7. Schultz teaches determining “expansion words” for a word in the query. Ex. 1013, 6:30-32. Kirsch and Schultz both teach this claim element. Ex. 1004, ¶81.

**d. Element 1.4 - “executing the query on a plurality of data sources”**

Kirsch teaches searching a plurality of different “document collections,” each of which is a “data source.” Kirsch equates each document collection with a “source of unique information” which corresponds to a “data source” (see note 2, *supra*):

While access to much of the information available through the Internet is free for public use, numerous proprietary or fee-based access document collections exist. Although such private document collections may all be accessible through the Internet, ... the collections are generally forced to be accessible as discrete entities in order to maintain fee-based access control. ... . Private document collections are likely to continue to exist as significant sources of unique information. Ex. 1011, 1:33-43 (emphasis added).

(Ex. 1004, ¶82).

Kirsch equates each document collection with a “database” which also corresponds to a “data source” (see note 2, *supra*):

A known problem in providing access to multiple databases is the relative difficulty or inefficiency in identifying an optimal database

or set of databases that should be searched to obtain the best search report for a some particular unstructured, or ad hoc, database query. ... The user must manually determine and select a particular set of databases that must, by definition, contain the desired results to a query... Ex. 1011, 1:64 -2:20 (emphasis added).

(Ex. 1004, ¶83).

Kirsch teaches that the query is initially directed against multiple document collections (which map to “a plurality of data sources” in the claim.) Ex. 1011, at 14:48-50 (“the user query 84 is preconditioned upon issuance from the user workstation 82 to specify the particular set of collections 88, 90, 92 that the query is to be resolved against”); Ex. 1004, ¶84.

Schultz taught applying a user query for non-textual data to a collection that included text and images. Ex. 1013, 12:49-53, 12:66-13:4 and 13:20-24 (“the scan of document index database 117 by query server 116 in step 335 simultaneously identifies document identification numbers representing both textual documents and multi-media records relevant to the search query.”); Ex. 1004, ¶85. It would have been obvious to incorporate Schultz’s techniques for querying a collection having image data into Kirsch’s system for querying a plurality of collections. A POSITA would have been motivated to combine the references in order to apply Kirsch’s collection selection techniques to collections that included image data, and would have had a reasonable expectation of success with respect to this combination. Ex. 1004, ¶86.

- e. **Element 1.5 - “selecting at least one data source from the plurality of data sources, the at least one data source being selected when results of the query are greater than or equal to an accuracy thresholds”**

Kirsch teaches that “a user query 12 is used to select a qualified set of most likely relevant document collections.” Ex. 1011, 6:29-30 and 10:19-21 (“the present invention supports automatic ... collection selection.”) The selection of “a qualified set” of document collections in Kirsch maps to “selecting at least one data source from the plurality of data sources” in the claims. Kirsch teaches that in order for a document collection to be selected, the document collection must meet a “minimum level of relevance.” *Id.*, 2:12; 9:67-10:4 (discussing “minimum relevance ranking threshold.”) A further “post-search constraint” required a selected collection to rank high enough to fall within a “maximum number of collections returned.” *Id.*, 12:11-12. Ex. 1004, ¶87.

Schultz taught relevance scoring and relevance ranking for image objects within a collection. Ex. 1013, 14:29-41, Figure 4A (“ information is displayed ... in relevance ranked order.”); Ex. 1004, ¶88. It would have been obvious to apply the relevance scoring and relevance ranking techniques for images taught in Schultz to Kirsch’s system in order to select collection(s) having at least one image with a relevance score over a minimum level of relevance and/or a relevance rank over a minimum ranking threshold. In this context, Schultz’s relevance scoring and relevance ranking techniques are analogous to Kirsch’s “minimum level of

relevance” and “minimum relevancy ranking threshold,” and it would have been a matter of simple substitution to use Schultz’s metrics for relevance scoring and/or relevance ranking of images for collection selection within Kirsch. A POSITA would have had a reasonable expectation of success with respect to this combination. Ex. 1004, ¶89.

As explained in Section III, *supra*, it is clear that in the context of the ‘712 Patent, a minimum relevancy threshold and/or a minimum relevancy ranking is an example of “an accuracy thresholds.” The combination of Kirsch and Schultz teach “selecting at least one data source from the plurality of data sources ... when results of the query are greater than or equal to an accuracy thresholds.” Ex. 1004, ¶90.

- f. **Element 1.6 - “monitoring, based on a set schedule, the at least one data source to extract non-textual data from the at least one data source when at least an update to stored data that matches the query, newly added non-textual data that matches the query, or a combination thereof”**

Eichstaedt teaches providing an email notification (or alert) to a user “when new information becomes available regarding ... search results.” Ex. 1015, 2:5-15. Eichstaedt teaches that “queries can be applied to new content information ... as the new content information becomes available.” *Id.*, 2:43-45. In order to prepare alerts, a poller server “wakes up after a predefined period” (e.g., after each “15 minute” slot elapses) and compares “old query results to the current content item(s). The poller

server also sends a request to the delivery server” which delivers “an alert with the content item.” *Id.*, 7:67, 8: 14-21, 8:28-54, 12:38-41 and Figures 5-6; Ex. 1004, ¶91.

Eichstaedt’s disclosures of (i) applying an old query to new content information after a predefined period (e.g., after expiration of 15 minute slots) and (ii) delivering an alert to a user with the new content item, map to “monitoring, based on a set schedule, the at least one data source to extract data when at least an update to stored data that matches the query,” in the claim. Ex. 1004, ¶92.

Kirsch, Schultz and Eichstaedt are all directed to search query technology. It would have been obvious to a POSITA to incorporate Eichstaedt’s monitoring functionality into the combination of Kirsch and Schultz described above, so that a user could receive periodic updates of new images from the “selected document collections.” Ex. 1004, ¶93.

**g. Element 1.7 - “establishing a communication channel with a second user based at least in part on the data extracted from the at least one monitored data source”**

As explained in Section III, *supra*, “establishing a communication channel” in the ‘712 Patent includes sending a message via email to user(s). Ex. 1001, 14:56-57. Sending an email alert with updated query results is an example of “establishing a communication channel ... based at least in part on the data extracted from the at least one monitored data source,” as claimed. The claim language is broad enough

to include establishing a communication with a second user via the first user.<sup>11</sup> Ex. 1004, ¶94.

Lucovsky (Ex. 1016) discloses a first user sharing search results with a second user via an email (Figures 4-6), message board (Figure 7), instant messaging (Figure 8) and a blog (Figure 9). Kirsch, Schultz, Eichstaedt and Lucovsky are all directed to search query technology. It would have been obvious to incorporate Lucovsky's search results sharing techniques with Kirsch, Schultz and Eichstaedt, so that a first user could share updates with a second user. Ex. 1004, ¶95.

To the extent this element requires that the communication channel be established with a different user without traversing the user submitting the query, the limitation is taught by Eichstaedt. Eichstaedt discloses that when new content matching a query is identified, a communication that includes the update is sent not only to the user that generated the query, but also to other users "who desire the same, or very similar, query results." Ex. 1015, 4:13-51. Sending an update to any one of the "other users" maps to "establishing a communication channel with a second user." Ex. 1004, ¶95.

---

<sup>11</sup> During prosecution of the '977 Patent, the Applicant made clear that the claimed establishing of the communication channel with the second user could be performed "via the first user." See, Ex. 1003, at 138, 142-143. While the Applicant later broadened the claim by deleting the requirement that the communication channel be established with the second user "via the first user" before allowance, the prosecution history makes clear that establishing the communication channel with the second user via the first user is within the scope of the claim.

Claim 1 is obvious over Kirsch, Schultz, Eichstaedt and Lucovsky. Ex. 1004, ¶96.

## **2. Claims 10 and 19**

Claims 10 and 19 recite all of the limitations of Claim 1 discussed above, but in the format of an apparatus or computer program product rather than a method. Claim 10 further recites “a memory unit” and “at least one processor ... configured” to perform the recited functions, and Claim 19 further recites “a non-transitory computer-readable medium having program code recorded thereon” to perform the recited functions. These aspects of Claims 10 and 19 are met by Kirsch. Ex. 1011, 6:24-29 (describing implementation as “an application program ... executing on one or more conventional networked computer systems.”) A POSITA would have understood a conventional network computer system to include memory coupled to a processor, as claimed. Ex. 1004, ¶97.

Claims 10 and 19 are obvious over Kirsch, Schultz, Eichstaedt and Lucovsky. *Id.*, ¶98.

## **3. Claims 2, 11 and 20**

Claims 2, 11 and 20 contain substantively identical limitations. The analysis of Claim 2 applies to Claims 11 and 20. *Id.*, ¶99.

### **a. Element 2.1 - “analyzing the extracted non-textual data”**

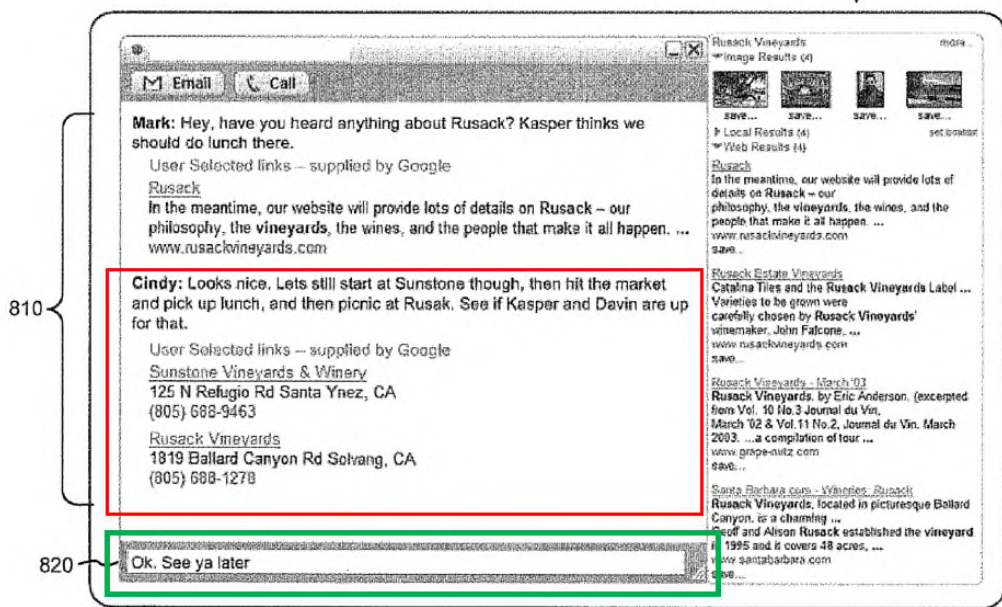
Kirsch teaches that the document list returned from the selected collection(s) may be refined “based on preferences established from the user workstation 82. These preferences may define refinement criteria such as minimal acceptable relevancy score, total number of documents identified, maximum number of documents from a particular collection, and the like. The refined document list is then provided by the search interface 122 through the Internet 86 as a report 121 to the user workstation 82. The end user can analyze the report 121 and selectively retrieve identified documents from the various collections 88, 90, 92 as desired.” Ex. 1011, 15:50-59 (emphasis added). When Kirsch’s system refines the document list based on user preferences, it is “analyzing” data. Similarly, Kirsch states that the user analyzes the document list, which also maps to “analyzing” data. Ex. 1004, ¶100.

As noted above, Eichstaedt teaches extracting data as part of the process of monitoring for updates. It would have been obvious to apply Kirsch’s teachings for refining and/or analyzing a document list (as set forth in the paragraph above) to Eichstaedt so that user preferences could be used to refine (or narrow) the subject matter of alerts. *Id.*, ¶ 101.

**b. Element 2.2 - “receiving feedback from the user based at least in part on the established communication channel”**

As mentioned above in Section X(A)(1)(f), Lucovsky discloses a first user sharing search results with a second user via an email. An example of such an email is depicted in Figure 5 of the reference (shown below):

(Ex. 1004, ¶ 102).



The responsive message (green box above) maps to “receiving feedback from the user based at least in part on the established communication channel” in the claim. Ex. 1004, ¶103.

Claims 2, 11 and 20 are obvious over Kirsch, Schultz, Eichstaedt and Lucovsky. *Id.*, ¶104.

#### 4. Claims 4 and 13

Claims 4 and 13 contain substantively identical limitations. The analysis of Claim 4 applies to Claim 13. *Id.*, ¶105.

- a. **Element 4.1 - “expanding the query comprises expanding the search terms to include at least misspellings, synonyms, sub-topics, antonyms, or a combination thereof”**

Kirsch teaches that “[c]ommon variably represented terms, such as online, are also equivalently recognized; online being made equivalent to “on line” and “on-line” for purposes of term equivalence mapping. ... .” Ex. 1011, 6:64-7:7. Expanding the query to include “equivalently recognized” search terms in Kirsch maps to “expanding the search terms to include ... synonyms,” as claimed. Ex. 1004, ¶106.

Schultz teaches expansion of a query term using a semantic network, where the term “semantic network” means a database in which each term carries with it semantic information such as, for example, ... synonym information.” Ex. 1013, 23:42-48. Schultz also taught expanding a search terms to include synonyms. Ex. 1004, ¶107.

Claims 4 and 13 are obvious over Kirsch, Schultz, Eichstaedt and Lucovsky. *Id.*, ¶108.

## 5. Claims 5 and 14

Claims 5 and 14 contain substantively identical limitations. The analysis of Claim 5 applies to Claim 14. *Id.*, ¶109.

### a. Element 5.1 - “refining the search terms based at least in part on the executed query, and in which the monitoring is performed to monitor for matches to a refined query “

Lucovsky teaches that the “user may continue to edit the content, enter or refine search queries.” Ex. 1016, 7:49-50. (emphasis added). Schultz also taught functionality for performing a recursive query, in which search terms are refined

based on query results. Ex. 1013, 22:41-54 and Figure 6A. It would have been obvious to apply a refined (narrowed) query as taught in Lucovsky and Schultz to the monitoring taught in Eichstaedt in order to narrow the updates to those reflected by a refined query. Ex. 1004, ¶110.

Claims 5 and 14 are obvious over Kirsch, Schultz, Eichstaedt and Lucovsky. *Id.*, ¶111.

## **6. Claims 6 and 15**

Claims 6 and 15 contain substantively identical limitations. The analysis of Claim 6 applies to Claim 15. *Id.*, ¶112.

### **a. Element 6.1 - “ the plurality of data sources include open-source data sources that are publicly available and closed-source data sources that at not publicly accessible”**

Kirsch applies its teachings to document collections that include both (i) “information available through the Internet [that] is free for public use” (which maps to “open-source data sources that are publicly available”), and (ii) “proprietary or fee-based access document collections” (which map to “closed-source data sources that are not publicly accessible.”) Ex. 1011, 1:33-42; Ex. 1004, ¶113.

Claims 6 and 15 are obvious over Kirsch, Schultz, Eichstaedt and Lucovsky. *Id.*, ¶114.

## **7. Claims 7 and 16**

Claims 7 and 16 contain identical limitations. The analysis of Claim 7 applies

to Claim 16. *Id.*, ¶115.

**a. Element 7.1 - “the query comprises at least a natural language query, a non-textual data query, or a combination thereof”**

Schultz teaches that the “search query is preferably in a natural language format.” Ex. 1013, 4:8-9. Kirsch, Schultz, Eichstaedt and Lucovsky are all directed to search query technology. It would have been obvious to use Schultz’s natural language search queries in Kirsch in order to make Kirsch more user-friendly for users who prefer not to formulate a Boolean search. Ex. 1004, ¶116.

Claims 7 and 16 are obvious over Kirsch, Schultz, Eichstaedt and Lucovsky. *Id.*, ¶117.

**8. Claims 8 and 17**

Claims 8 and 17 contain substantively identical limitations. The analysis of Claim 8 applies to Claim 17. *Id.*, ¶118.

**a. Element 8.1 - “in which the non-textual data comprises at least one of an image, audio, a video, or a combination thereof”**

In Schultz, the non-textual data includes images. Ex. 1013, 12:49-53 and 12:66-13:4. Claims 8 and 17 are obvious over Kirsch, Schultz, Eichstaedt and Lucovsky. Ex. 1004, ¶¶119-120.

**B. Ground 2 - Claims 1, 4-8, 10, 13-17 And 19 Are Obvious Over Kirsch, Schultz, Eichstaedt And Mellin**

**1. Claim 1**

As explained in Sections X(A)(1)(a)-(f), Elements 1.1 - 1.6 of Claim 1 are met by Kirsch and Eichstaedt. Instead of relying on Lucovsky for Element 1.7 as set forth in Ground 1 above, Ground 2 maps Element 1.7 (“establishing a communication channel with a second user based at least in part on the data extracted from the at least one monitored data source”) to Mellin which taught the use of a group email address to facilitate collaboration among members of a group. *See*, Mellin (Ex. 1017), at 3:24-26. In a case where the author of the query (mapped to “a first user” in the claim) was part of a group collaboration, it would have been obvious for the author to designate a group email address to receive search result updates so that the updated search results were distributed to all collaborators. Any collaborator on the group email address other the author of the search query maps to “a second user” in the claim. Ex. 1004, ¶121.

Claim 1 is obvious over Kirsch, Schultz, Eichstaedt and Mellin. *Id.*, ¶122.

**2. Claims 4-8, 10, 13-17 And 19**

The additional limitations of Claims 10 and 19 are met by Kirsch. *See*, Section X(A)(2).

The additional limitations of Claims 4 and 13 are met by Kirsch. *See*, Section X(A)(4).

The additional limitations of Claims 5 and 14 are met by Schultz. *See*, Section X(A)(5).

The additional limitations of Claims 6 and 15 are met by Kirsch. *See*, Section X(A)(6).

The additional limitations of Claims 7 and 16 are met by Schultz. *See*, X(A)(7).

The additional limitations of Claims 8 and 17 are met by Kirsch. *See*, Section X(A)(8).

Claims 4-8, 10, 13-17 and 19 are also obvious over Kirsch, Schultz, Eichstaedt and Mellin. Ex. 1004, ¶¶123-129.

**C. Ground 3 - Claims 2, 11 and 20 Are Obvious Over Kirsch, Schultz, Eichstaedt And Mellin**

Claims 2, 11 and 20 contain substantively identical limitations. The analysis of Claim 2 applies to Claims 11 and 20. *Id.*, ¶130.

**1. Element 2.1 - “analyzing the extracted data”**

This feature is taught by, and obvious in view of, Kirsch and Eichstaedt as set forth in Section X(A)(3)(a). *Id.*, ¶131.

**2. Element 2.2 - “receiving feedback from the user based at least in part on the established communication channel”**

As explained above in Section X(B), it would have been obvious in view of Mellin (Ex. 1017) for an author of a query to designate a group email address to

receive search result updates so that the updated search results were distributed to all collaborators. Any collaborator on the group email address other the author of the search query maps to “a second user” in the claim. Ex. 1004, ¶132.

Schultz (Ex. 1013) teaches that a results list can be sent from a server to a user computer. The channel used to send the results to the user maps to “the established communication channel” in the claim. Schultz teaches that, using the search results displayed on the user’s computer, the user can then click on a particular search result and the server will return the corresponding document to the user over the same communication channel. In this scenario, when the user (e.g., a collaborator in Mellin’s group email address mapped to the “second user”) clicks on a particular result, the server receives “feedback” (in the form of the selected search result) from the user. This “feedback” is sent back to the server using the same communication channel that the server used to send the search results list to the user. By sending the feedback on the same communication channel as was used to send the search results list (“the established communication channel”), the feedback is received based in part on the established communication channel. Ex. 1013, 14:13-15:16; Ex. 1004, ¶133.

It would have been obvious to use Schultz’s techniques for communicating with the server when the server sends a group email (as taught in Mellin) to a group of collaborators, so as to allow a given collaborator to retrieve a particular result on

a search results list. A POSITA would have been motivated to combine these techniques in order to simplify retrieval of search results for users. Ex. 1004, ¶134.

Claims 2, 11 and 20 are also obvious over Kirsch, Schultz, Eichstaedt and Mellin. *Id.*, ¶135.

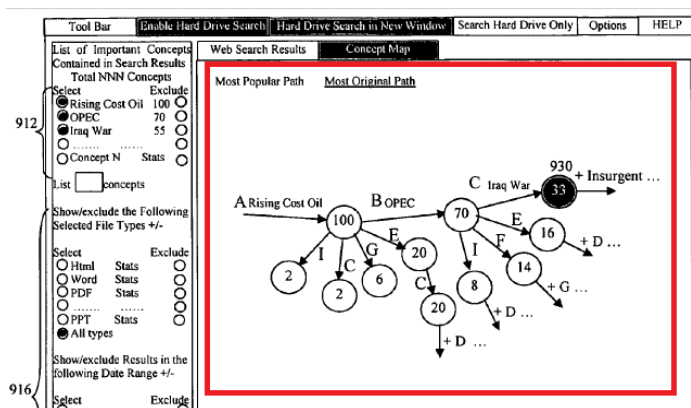
**D. Ground 4 - Claims 3 And 12 Are Obvious Over Kirsch, Schultz, Eichstaedt And Lucovsky, In View Of Liang**

Claims 3 and 12 contain substantively identical limitations. The analysis of Claim 3 applies to Claim 12. *Id.*, ¶136.

Claim 3 depends from Claim 2. As set forth in Section X(A)(3), Claim 2 is obvious over Kirsch, Schultz, Eichstaedt And Lucovsky. *Id.*, ¶137.

**1. Element 3.1 - “visualizing at least the extracted data, the analyzed data, or a combination thereof”**

Liang (Ex. 1012) teaches visualization of search results. (See Figure 9 of Liang below, red box added) (Ex 1004, ¶138):



Kirsch, Schultz, Eichstaedt, Lucovsky and Liang are all directed to search query technology. It would have been obvious to incorporate Liang’s visualization

techniques with the other references so that a user could visualize search results. Ex. 1004, ¶139.

Claims 3 and 12 are obvious over Kirsch, Schultz, Eichstaedt and Lucovsky, in view of Liang. *Id.*, ¶140.

**E. Ground 5 - Claims 9 and 18 Obvious Over Kirsch, Schultz, Eichstaedt And Lucovsky, And Further In View Of Vinsonneau**

Claims 9 and 18 are contain substantively identical limitations. The analysis of Claim 9 applies to Claim 18. *Id.*, ¶141.

Claim 9 depends from Claim 1. As set forth in Section X(A)(1), Claim 1 is obvious over Kirsch, Schultz, Eichstaedt and Lucovsky. *Id.*, ¶142.

Vinsonneau taught a method for querying data banks where the number of bots used to process search queries depends on the volume or quantity of data being searched. Ex. 1018, 4:8-9. Vinsonneau and Eichstaedt are both directed to search technology. In view of Vinsonneau, it would have been obvious to dynamically scale the number of extractors (or “poller servers”) in Eichstaedt for a particular data source based on traffic volume in order to improve the performance of Eichstaedt as traffic volume varied. Ex. 1004, ¶143.

Claims 9 and 18 are obvious over Kirsch, Schultz, Eichstaedt and Lucovsky, in view of Vinsonneau. *Id.*, ¶144.

**F. Ground 6 - Claims 9 and 18 Obvious Over Kirsch, Schultz, Eichstaedt And Mellin, And Further In View Of Vinsonneau**

Claims 9 and 18 are contain substantively identical limitations. The analysis of Claim 9 applies to Claim 18. *Id.*, ¶145.

Claim 9 depends from Claim 1. As set forth in Section X(B), Claim 1 is obvious over Kirsch, Schultz, Eichstaedt and Mellin. With respect to the additional limitation of Claim 9, it would have been obvious in view of Vinsonneau to dynamically scale the number of extractors (or “poller servers”) in Eichstaedt for a particular data source based on traffic volume, in order to improve the performance of Eichstaedt as traffic volume varied. Ex. 1004, ¶146; *see also*, Section X(E).

Claims 9 and 18 are also obvious over Kirsch, Schultz, Eichstaedt and Mellin, in view of Vinsonneau. *Id.*, ¶147.

**G. Ground 7 - Claims 1-4, 7-8, 10-13, 16-17 And 19-20 Are Obvious Over Liang, Nelson And Lucovsky**

**1. Claim 1**

**a. Element 1.1 - “A method of analyzing data”**

To the extent the preamble is limiting, Liang teaches a method of analyzing data. *See*, Ex. 1012, at [0167] (“this invention uses ... to analyze search results ...”) Ex. 1004, ¶148.

**b. Element 1.2 - “receiving, from a first user, a query for non-textual data”**

Figure 1 of Liang teaches a user interface for searching using a natural language query:

*Id.*, Fig. 1 (red box added by Petitioner); Ex. 1004, ¶149. Liang also taught querying non-textual data such as images:

Ex. 1012, Figure 5 (red box added). Liang teaches “receiving, from a first user, a query for non-textual data.” Ex. 1004, ¶149.

To the extent this claim element requires that the query itself include non-textual data, such a query is taught by Nelson. Ex. 1019, at 3:6-17 (retrieving “an image with image characteristics (e.g. color, texture, luminance) which match the input query image”) and 6:35-56. Nelson further taught “a compound query” that would require that the word ‘beach’ appear within 10 words of an image of a sunset.” *Id.*, at 3:11-12. It would have been obvious to incorporate Nelson’s techniques for using query images and compound queries into Liang’s retrieval system. A POSITA would have been motivated to combine the references in order to expand the capabilities of Liang such that a user can include both text and a query image in a query, and would have had a reasonable expectation of success with respect to this combination. Ex. 1004, ¶150.

**c. Element 1.3 - “expanding search terms of the query”**

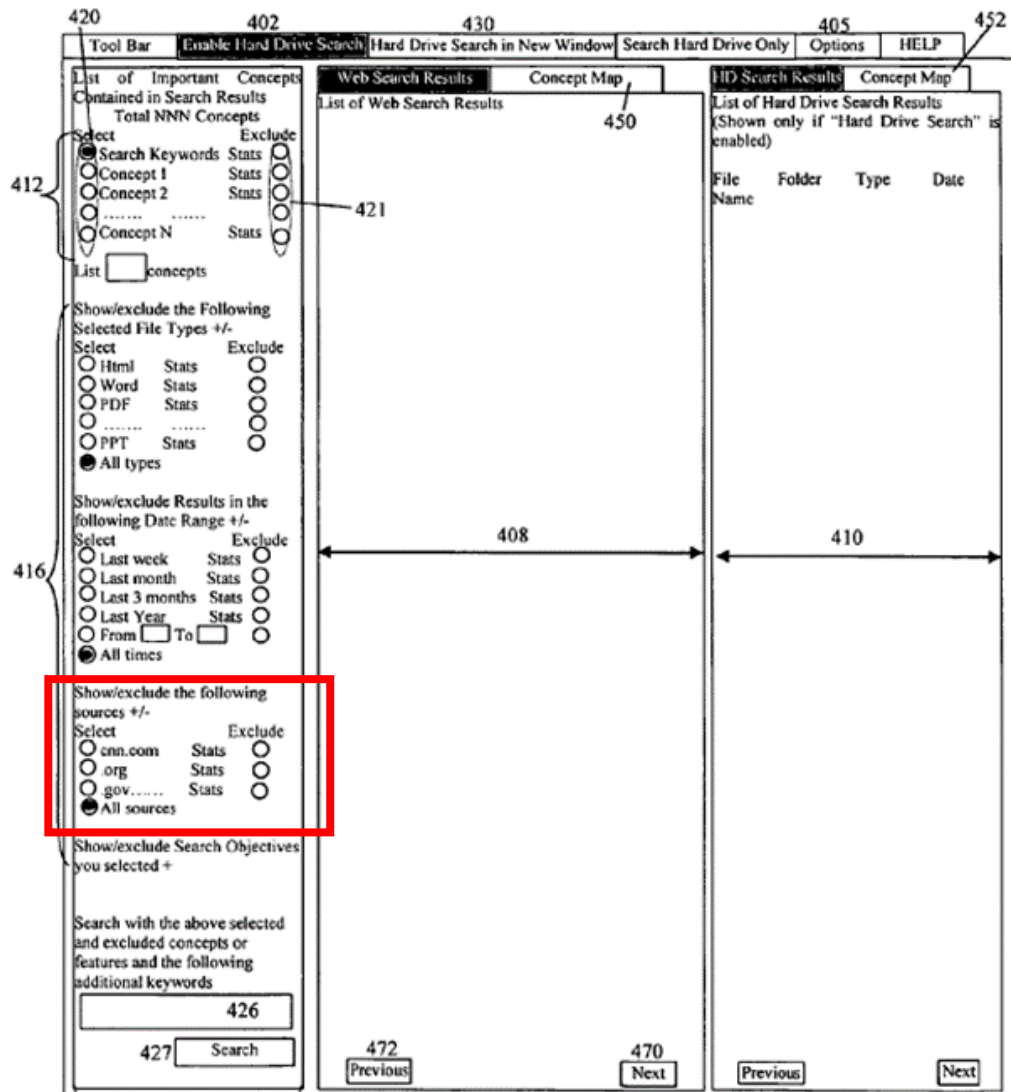
Liang “broadens a search by expanding search keywords into concepts comprising of the synsets, hypemym, and/or hyponym/troponym of a keyword ...,” which maps to “expanding search terms of the query.” Ex. 1012, [0013]; Ex. 1004, ¶151.

To the extent the claim requires that the query itself include non-textual data, such a query is taught by Nelson, which would have been obvious to combine with Liang, as explained above. *See*, Section (X)(G)(1)(b). Nelson further taught that its query can be expanded to include “other images (or image attributes) of similar

shape or color, texture, and so forth.” *Id.*, at 7:14-21. It would have been obvious to further incorporate Nelson’s techniques for expanding the query image into Liang’s retrieval system. A POSITA would have been motivated to combine Liang’s query expansion techniques with those in Nelson in order to increase the robustness of search results from a “compound query.” *See*, Section (X)(G)(1)(b). A POSITA would have had a reasonable expectation of success with respect to this combination. Ex. 1004, ¶152.

**d. Element 1.4 - “executing the query on a plurality of data sources”**

Liang teaches execution of a query on multiple sources (see red box). Liang suggests initially executing the query on a plurality of data sources, after which the user is provided with the option to narrow the number of data sources used for the query. Ex. 1004, ¶153.



Ex. 1012, Figure 4 (annotations added). Liang states that the “sections 416 allow a user to filter the search results by other filtering features such as file types, dates of modification, sources, among other things.” Ex. 1012, [0178] (emphasis added). In order for a user to be able to filter based on sources (plural) in Liang, the query would first need to have been executed on a plurality of sources. The fact that the “All Sources” box is checked in Figure 4 further suggests that the initial query is applied to multiple data sources in Liang. In any event, it would have been obvious for a

user to select multiple sources for an initial query in Liang, so as to cover a range of sources with potentially relevant data. Ex. 1004, ¶153.

- e. **Element 1.5 - “selecting at least one data source from the plurality of data sources, the at least one data source being selected when results of the query are greater than or equal to an accuracy thresholds”**

Liang provides “Stats” (green box) for each of the data sources that were searched:

The screenshot displays the Liang software interface with various search and filtering options. The interface is divided into several sections:

- Top Bar:** Contains menu items: Tool Bar, Enable Hard Drive Search, Hard Drive Search in New Window, Search Hard Drive Only, Options, and HELP.
- Left Panel (412):**
  - List of Important Concepts Contained in Search Results:** Includes a section for "Total NNN Concepts" with radio buttons for "Search Keywords", "Concept 1", "Concept 2", and "Concept N". Each has associated "Stats" and "Exclude" buttons.
  - Show/Exclude the Following Selected File Types +/-:** Includes radio buttons for "Html", "Word", "PDF", "PPT", and "All types", each with "Stats" and "Exclude" buttons.
  - Show/Exclude Results in the following Date Range +/-:** Includes radio buttons for "Last week", "Last month", "Last 3 months", "Last Year", "From [ ] To [ ]", and "All times", each with "Stats" and "Exclude" buttons.
  - Show/Exclude the following sources +/-:** This section is highlighted with a red box. It includes radio buttons for "cnn.com", ".org", ".gov.....", and "All source", each with "Stats" and "Exclude" buttons. The "Stats" button for "cnn.com" is highlighted with a green box.
  - Show/Exclude Search Objectives you selected +**
  - Search with the above selected and excluded concepts or features and the following additional keywords:** Includes a text input field (426) and a "Search" button (427).
- Right Panel (408 and 410):**
  - Web Search Results (450):** Includes a "List of Web Search Results" and a "Concept Map" (421).
  - HD Search Results (410):** Includes a "List of Hard Drive Search Results (Shown only if 'Hard Drive Search' is enabled)" and a "Concept Map". It features a table with columns: File Name, Folder, Type, and Date.
- Bottom Bar:** Includes navigation buttons: "Previous" (472), "Next" (470), and "Previous" (470), "Next" (470).

Ex. 1012, Figure 4 (annotations added). Liang explains that these “Stats” correspond to statistics, such as “the total number of appearances of an important concept in the search results” or “the number of web pages or files in the search results ... that match the filtering feature.” Ex. 1012, [0184]. Liang’s system automatically “selects the first S [sources], where S is a positive integer and can be set by default” “from which the most number of web pages and files are retrieved in the search results.” Ex. 1012, [0229]. These selected sources in Liang correspond to sources with query results (e.g., number of retrieved web pages and files) greater than or equal to an accuracy threshold (the top “S” sources). Ex. 1004, ¶154.

To the extent the claim requires that the query itself include non-textual data (as taught in Nelson, *see*, Sections (X)(G)(1)(b) and (c)), Nelson disclosed the use of filtering features “such as ‘/shape’ and ‘/color’ [that] enable the user to selectively define which aspects of the query images are of interest.” *Id.*, at 6:35-56. The number of appearances of a concept for a particular source or the number of files/webpages matching Nelson’s filtering feature for images, each correspond to an “accuracy” parameter for each source.

- f. **Element 1.6 - “monitoring, based on a set schedule, the at least one data source to extract non-textual data from the at least one data source when at least an update to stored data that matches the query, newly added non-textual data that matches the query, or a combination thereof”**

Figure 1 of Liang teaches alerting a user by email when “changes are detected.”

The screenshot shows the 'INTELLIGENT SEARCH ENGINE' interface. At the top is a tool bar with buttons: 'Enable Hard Drive Search', 'Hard Drive Search in New Window', 'Search Hard Drive Only', 'Options', and 'HELP'. Below the title, there are two columns of search categories, each with a radio button and a label. A bracket labeled '104' groups the left column, and a bracket labeled '101' groups the right column. Below the categories is a section for describing the search, with a text input area labeled '102' and a 'Search' button labeled '106'. Below this is a section for 'More Options', including a date range selector labeled '108' and a section for enabling alerts. A red box highlights the alert section, which contains a text input area labeled '112' and a 'Search' button. Below the red box are two checkboxes for enabling 'Concept Following' (labeled '116') and 'Link Following' (labeled '118'), each with a 'Select depth' dropdown and a 'Search' button.

Ex. 1012, Figure 1 (annotations added). Liang “offers a user ... the option to keep his search active for a period of time to monitor for new sources and changes to existing sources by specifying a date range in 110, and when a change is detected, the option to alert the user on his local PC or send an email to an email account that the user provides in 112.” *Id.*, [0052] (emphasis added). Liang also teaches that “[b]oth the time period and the monitoring frequency may be chosen by a pull-down

menu, or text box and check boxes.” *Id.*, [0347] (emphasis added). The “monitoring frequency” in Liang maps to “monitoring, based on a set schedule.” Ex. 1004, ¶155.

Both Liang and Nelson teach returning non-textual data matching a query. *See*, Section X(G)(1)(b). To the extent Liang does not teach returning images in response to a query, it would have been obvious to incorporate Nelson’s techniques for returning images that match characteristics of a query image into Liang’s retrieval system. A POSITA would have been motivated to combine the references in order to expand the capabilities of Liang such that a user can include both text and a query image in a query, and receive query results that include both text and images, and would have had a reasonable expectation of success with respect to this combination. Ex. 1004, ¶156.

**g. Element 1.7 - “establishing a communication channel with a second user based at least in part on the data extracted from the at least one monitored data source”**

As explained in Sections III(A) and X(A)(1)(g), this limitation is met by sending an email alert with updated query results to the second user “via the first user.” *See also*, note 8; Ex. 1004, ¶157.

Lucovsky (Ex. 1016) discloses a first user sharing search results with a second user via an email (Figures 4-6), message board (Figure 7), instant messaging (Figure 8) and a blog (Figure 9). Liang, Nelson and Lucovsky are all directed to search query technology. It would have been obvious to incorporate Lucovsky’s search results

sharing techniques with Liang and Nelson, so that a first user could share updates with a second user. A POSITA would have had a reasonable expectation of success in incorporating Lucovsky’s search results sharing techniques with Liang and Nelson Ex. 1004, ¶158.

Claim 1 is obvious over Liang, Nelson and Lucovsky. *Id.*, ¶159.

## **2. Claims 10 and 19**

As noted in Section X(A)(2), Claim 10 further recites “a memory unit” and “at least one processor ... configured” to perform the recited functions, and Claim 19 further recites “a non-transitory computer-readable medium having program code recorded thereon” to perform the recited functions. These aspects of Claims 10 and 19 are met by Liang. Ex. 1012, [0039] (each “element may be configured in hardware, software, firmware or combinations thereof.”) A POSITA would have understood “hardware, software” or “combinations thereof” to include memory that stored software code executed by a processor, as claimed. Ex. 1004, ¶160.

Claims 10 and 19 are also obvious over Liang, Nelson and Lucovsky. *Id.*, ¶161.

## **3. Claims 2, 11 and 20**

Claims 2, 11 and 20 contain substantively identical limitations. The analysis of method Claim 2 applies to Claims 11 and 20. *Id.*, ¶162.

### **a. Element 2.1 - “analyzing the extracted data”**

Liang taught analyzing search results which maps to “analyzing the extracted data” in the claim. *See*, Ex. 1012, at [0167]. Alternatively, it would have been obvious to apply Liang’s techniques for analyzing search results to “the extracted data” resulting from Liang’s monitoring techniques. Ex. 1004, ¶163.

**b. Element 2.2 - “receiving feedback from the user based at least in part on the established communication channel”**

As mentioned above in Section X(A)(3)(b), Lucovsky discloses a first user sharing search results with a second user via an email, and the second user providing a responsive message thereto. Such a responsive message maps to “receiving feedback from the user based at least in part on the established communication channel” in the claim. Claims 2, 11 and 20 are obvious over Liang, Nelson and Lucovsky. Ex. 1004, ¶¶164, 165.

**4. Claims 3 and 12**

The additional limitations of Claims 3 and 12 recite visualization of search results. As explained in Section X(D), Liang teaches visualization of search results using graphical diagrams. Thus, Claims 3 and 12 are also obvious over Liang, Nelson and Lucovsky. Ex. 1004, ¶166.

**5. Claims 4 and 13**

The additional limitations of Claims 4 and 13 recite “expanding the search terms to include ... synonyms.” Liang states that it “broadens a search by expanding

search keywords into concepts comprising of the synsets, hypemym, and/or hyponym/troponym of a keyword ...” Ex. 1012, [0013]. A “synset” is a synonym set. Ex. 1004, ¶167. Claims 4 and 13 are obvious over Liang, Nelson and *Id.*

## **6. Claims 7 and 16**

Claims 7 and 16 further recite that the query is a natural language query, a non-textual data query, or a combination thereof. As explained in Section X(G)(1)(b), Figure 1 of Liang teaches a natural language query. Further, as explained in Section X(G)(1)(b), Nelson taught a compound query that included a combination of a query image (image of a sunset) and text (the word ‘beach’). Ex. 1019, at 3:11-12. Claims 7 and 16 are obvious over Liang, Nelson and Lucovsky. Ex. 1004, ¶168.

## **7. Claims 8 and 17**

Claims 8 and 17 further recite that the non-textual data comprises “an image, audio, a video, or a combination thereof.” As explained in Section X(G)(1)(b), Liang taught that its search engine which could be used for, *inter alia*, querying non-textual data such as images. Further, as explained in Section X(G)(1)(b), Nelson taught using an image as the query itself. Ex. 1019, at 3:6-17. Claims 8 and 17 are obvious over Liang, Nelson and Lucovsky. Ex. 1004, ¶169.

**H. Ground 8 - Claims 1-8, 10-17 and 19-20 Are Obvious Over Liang, Nelson, Kirsch, Schultz and Lucovsky**

**1. Claims 1, 10 and 19**

As set forth in Sections X(G)(1) and (2), all of the limitations of Claims 1, 10 and 19 are obvious in view of Liang, Nelson and Lucovsky. Ex. 1004, ¶170.

**a. Element 1.4**

With respect to Element 1.4 (*see* Section X(G)(1)(d))), to the extent Liang does not expressly teach executing the query on multiple data sources, it would have been obvious in view of Kirsch. Ex. 1004, ¶171. As described in Section X(A)(1)(d), Kirsch teaches that a query is initially directed against multiple document collections *Id.*; Ex. 1011, 6:29-30.

Liang, Nelson and Kirsch are all directed to search technology. It would have been obvious to incorporate techniques for querying a collection having image data as taught in Liang/Nelson into Kirsch's system for querying a plurality of collections. A POSITA would have been motivated to combine the references in order to apply the collection selection techniques of Kirsch to collections that included image data (in order to identify (from a larger set of document collections) a subset of document collections most relevant to the query), and would have had a reasonable expectation of success with respect to this combination. Ex. 1004, ¶172.

**b. Element 1.5**

With respect to Element 1.5 (see Section X(H)(1)(e))), to the extent this feature is not expressly taught in Liang, it would have been obvious in view of Kirsch, Nelson and Schultz. As noted in Section X(A)(5), (i) Kirsch taught automatic selection of data sources based on a “minimum level of relevance,” “minimum relevancy ranking threshold” and/or requirement that a selected collection rank high enough to fall within a “maximum number of collections returned.” Nelson taught a query that included a query image. See, Section X(G)(1)(b). Schultz taught relevance scoring and relevance ranking for image objects within a collection. Ex. 1013, 14:29-41, Figure 4A. It would have been obvious to use the collection selection techniques in Kirsch together with Schultz’s scoring and ranking metrics for non-textual data in the context of Liang/Nelson to narrow the sources searched in Liang/Nelson to ones selected using Kirsch’s techniques in order to filter out less relevant sources. A POSITA would have had a reasonable expectation of success with respect to this combination. Ex. 1004, ¶173.

**c. Element 1.6**

It would have been obvious to apply Liang’s monitoring to the “qualified set” of data sources selected using Kirsch’s collection selection techniques and Schultz’s metrics. A person would have been motivated to limit the number of data sources used for monitoring in order avoid identification of less relevant results during the

monitoring. Ex. 1004, ¶174.

Claims 1, 10 and 19 are also obvious over Liang Nelson and Lucovsky in combination with Kirsch and Schultz. Ex. 1004, ¶175.

## **2. Claims 2, 11 and 20**

The additional limitations of dependent claims 2, 11 and 20 are taught by Liang and Lucovsky. *See*, Section X(G)(3). Claims 2, 11 and 20 are obvious over Liang, Nelson and Lucovsky in combination with Kirsch and Schultz. Ex. 1004, ¶176.

## **3. Claims 3 and 12**

The additional limitations of Claims 3 and 12 (visualization of search results) are met by Liang. *See*, Section X(G)(3). Claims 3 and 12 are also obvious over Liang, Nelson and Lucovsky in combination with Kirsch and Schultz. Ex. 1004, ¶177.

## **4. Claims 4 and 13**

As explained in Section X(G)(4), the additional limitations of Claims 4 and 13 are taught by Liang. Alternatively, as explained in Section X(A)(3), Kirsch teaches expanding the search terms to include synonyms.” Claims 4 and 13 are also obvious over Liang, Nelson and Lucovsky in combination with Kirsch and Schultz. Ex. 1004, ¶¶178-179.

## **5. Claims 5, 14 and 20**

As explained in Section X(A)(5), the additional limitations of Claims 5, 14 and 21 are met by Lucovsky. It would have been obvious to incorporate Lucovsky's search refinement techniques into the other references, so that a user could refine search terms based on the query and monitor for matches to the refined query. Ex. 1004, ¶180. Claims 5, 14 and 21 are obvious over Liang, Nelson and Lucovsky in combination with Kirsch and Schultz. *Id.*, ¶181.

## **6. Claims 6 and 15**

As explained in Section X(A)(5), the additional limitations of Claims 6 and 15 are taught by Kirsch. It would have been obvious to apply the teachings of Liang, Nelson and Schultz to document collections that include both public and proprietary data, as taught in Kirsch. Ex. 1011, 1:33-42. A POSITA would have been motivated to implement these aspects of Kirsch in combination with the other references in order to allow for searching of both public and private collections. Ex. 1004, ¶182.

Claims 6 and 15 are obvious over Liang, Nelson and Lucovsky in combination with Kirsch and Schultz. *Id.*, ¶183.

## **7. Claims 7 and 16**

As explained in Section X(G)(6), the additional limitations of Claims 7 and 16 are taught by Liang (natural language search query) and Nelson (compound query). Claims 7 and 16 are obvious over Liang, Nelson and Lucovsky in

combination with Kirsch and Schultz. Ex. 1004, ¶184.

## **8. Claims 8 and 17**

As explained in Section X(G)(7), the additional limitations of Claims 8 and 17 are met by Liang and Nelson. Claims 8 and 17 are obvious over Liang, Nelson and Lucovsky in combination with Kirsch and Schultz. Ex. 1004, ¶185.

### **I. Ground 9 - Claims 1, 4, 7, 8, 10, 13, 16, 17 and 19 Are Obvious Over Liang, Nelson and Mellin**

#### **1. Claim 1**

As set forth in Section X(G)(1)(a)-(f), the Elements 1.1-1.6 of Claim 1 are taught by Liang and Nelson. Instead of relying on Lucovsky for Element 1.7 as set forth in Ground 7 above, Ground 9 maps Element 1.7 to Mellin which taught the use of a group email address to facilitate collaboration among members of a group. *See*, Mellin (Ex. 1017), at 3:24-26. In a case where the author of the query (mapped to “a first user” in the claim) was part of a group collaboration, it would have been obvious for the author to designate a group email address to receive search result updates so that the updated search results were distributed to all collaborators. Any collaborator on the group email address other the author of the search query maps to “a second user” in the claim. Claim 1 is obvious over Liang, Nelson and Mellin. Ex. 1004, ¶186.

## **2. Claims 4, 7, 8, 10, 13, 16, 17 and 19**

The additional limitations of Claims 10 and 19 are met by Liang. *See*, Section X(G)(2).

The additional limitations of Claims 4 and 13 are met by Liang. *See*, Section X(G)(5).

The additional limitations of Claims 7 and 16 are met by Liang and Nelson. *See*, Section X(G)(6).

The additional limitations of Claims 8 and 17 are met by Liang and Nelson. *See*, Section X(G)(7).

Claims 4, 7, 8, 10, 13, 16, 17 and 19 are obvious over Liang, Nelson and Mellin. Ex. 1004, ¶¶187-191.

## **J. Ground 10 - Claims 2, 3, 5, 6, 11, 12, 14, 15 And 20 Are Obvious Over Liang, Nelson and Mellin In Combination With Kirsch And Schultz**

### **1. Claims 2, 11 and 20**

As set forth in Section (X)(I), Claims 1, 10 and 19 are obvious over Liang, Nelson and Mellin. As set forth in Sections X(A)(3)(a) and X(C)(2), the additional limitations of Claims 2, 11 and 20 are taught by Kirsch and Schultz. For the reasons set forth in Section (X)(H), it would have been obvious to combine Liang and Nelson with Kirsch and Schultz. Claims 2, 11 and 20 are obvious over Liang, Nelson and Mellin, in view of Kirsch and Schultz. Ex. 1004, ¶192.

## **2. Claims 3, 5, 6, 12, 14 and 15**

, The additional limitations of Claims 3 and 12 are taught in Liang. *See*, Section (X)(D).

The additional limitations of Claims 5 and 14 are taught by Schultz. *See*, Section (X)(A)(5).

The additional limitations of Claims 6 and 15 are taught by Schultz. *See*, Section (X)(A)(6).

Claims 3, 5, 6, 12, 14 and 15 are obvious over Liang, Nelson and Mellin, in view of Kirsch and Schultz. Ex. 1004, ¶¶193-196.

### **K. Ground 11 - Claims 9 and 18 Are Obvious Over Liang, Nelson, Lucovsky And Vinsonneau**

As set forth in Section X(G)(1), the limitations of Claim 1 are taught by Liang, Nelson and Lucovsky, and, as set forth in Section X(E), the limitations of Claims 9 and 18 are taught in Vinsonneau. It would have been obvious to combine Vinsonneau's scaling with Liang's monitoring in order to improve the performance of Liang as traffic volume varied. Ex. 1004, ¶197.

Claims 9 and 18 are also obvious over Liang, Nelson, Lucovsky and Vinsonneau. *Id.*

### **L. Ground 12 - Claims 9 and 18 Are Obvious Over Liang, Nelson, Lucovsky, Kirsch And Schultz, In View Of Vinsonneau**

As set forth in Section X(H)(1), the limitations of Claim 1 are taught by Liang,

Nelson, Lucovsky, Kirsch and Schultz, and, as set forth in Section X(E), the limitations of Claims 9 and 18 are taught in Vinsonneau. It would have been obvious to combine Vinsonneau's scaling with Liang's monitoring in order to improve the performance of Liang as traffic volume varied. Ex. 1004, ¶198.

Claims 9 and 18 are also obvious over Liang, Nelson, Lucovsky, Kirsch and Schultz, in view of Vinsonneau. *Id.*

**M. Ground 13 - Claims 1-20 Are Obvious Over The '301 Publication And Schultz**

As discussed in Section V, during prosecution the Patent Owner acquiesced in the Examiner's finding that the Claims of the '712 Patent were obvious over the combination of the '977 Patent and prior art directed to non-textual data. The '301 Publication has the same specification as the '977 Patent and contains the same teachings, and Schultz is prior art directed to non-textual data. In view of the above, the Patent Owner effectively conceded during prosecution that the combination of the '301 Publication and Schultz renders all of the Challenged Claims obvious. As explained below, modifying the '301 Publication for querying non-textual data was obvious in view of Schultz.

**1. Claim 1**

As set forth below, all of the elements of Claim 1 are met by the '301 Publication and Schultz. Ex. 1004, ¶199.

**a. Element 1.1 - "A method of analyzing data"**

The '301 Publication describes “a method of analyzing data.” Ex. 1014, [0009]; Ex. 1004, ¶200.

**b. Element 1.2 - “receiving, from a first user, a query for non-textual data”**

The '301 Publication discloses a query generated by the user. *Id.*, [0009]; [0026]. Schultz taught a user query for querying non-textual data such as images. Ex. 1013, 12:49-53 and 12:66-13:4. The '301 Publication and Schultz both relate to search technology, and it would have been obvious to incorporate Schultz's techniques for querying non-textual image data into the '301 Publication. A POSITA would have been motivated to combine the references in order to apply Schultz's image querying techniques into the '301 Publication, and would have had a reasonable expectation of success with respect to this combination. Ex. 1004, ¶201.

**c. Element 1.3 - “expanding search terms of the query”**

The '301 Publication teaches “expanding search terms of the query.” Ex. 1014, [0009]; Ex. 1004, ¶202.

**d. Element 1.4 - “executing the query on a plurality of data sources”**

The '301 Publication teaches “executing the query on one or more data sources.” *Id.*, [0009]; Ex. 1004, ¶203.

**e. Element 1.5 - “selecting at least one data source from the plurality of data sources, the at least one data source being selected when results of the query are greater than or equal to an accuracy thresholds”**

The '301 Publication teaches that “one or more of the data sources are selected based on the accuracy of the search results.” *Id.*, [0026]. Schultz taught relevance scoring and relevance ranking for image objects within a collection. Ex. 1013, 14:29-41, Figure 4A. Ex. 1004, ¶204. It would have been obvious to apply the relevance scoring and relevance ranking techniques for images taught in Schultz to the system in the '301 Publication in order to select collection(s) having at least one image with a relevance score over a minimum level of relevance and/or a relevance rank over a minimum ranking threshold. It would have been a matter of simple substitution to use Schultz's metrics for relevance scoring and/or relevance ranking of images for collection selection within the '301 Publication. A POSITA would have had a reasonable expectation of success with respect to this combination. Ex. 1004, ¶205.

**f. Element 1.6 - “monitoring, based on a set schedule, the at least one data source to extract non-textual data from the at least one data source when at least an update to stored data that matches the query, newly added non-textual data that matches the query, or a combination thereof”**

The '301 Publication teaches “monitoring a specific data source selected from the one or more data sources. The monitoring is performed to monitor for matches to the query.” Ex. 1014, [0009]. The '301 Publication also teaches “extracting data from the at least one monitored specific data source ...” *Id.*, Claim 2. Finally, the '301 Publication teaches that the “user may also set a schedule for the extractor to

determine if there is new content ... The schedule may be once a week, hour, month, minute, or other time.” *Id.*, [0048], Ex. 1004, ¶206.

Schultz taught a user query for querying non-textual data such as images. Ex. 1013, 12:49-53 and 12:66-13:4. The ‘301 Publication and Schultz both relate to search technology, and it would have been obvious to incorporate Schultz’s techniques for querying non-textual image data into the ‘301 Publication’s monitoring step. Ex. 1004, ¶207.

**g. Element 1.7 - “establishing a communication channel with a second user based at least in part on the data extracted from the at least one monitored data source”**

The ‘301 Publication teaches that “a communication channel may be established with specific individuals and/or other users based on the analyzed data.” Ex. 1014, [0032]. The “other users” in [0032] of the ‘301 Publication map to a “second user,” as claimed. The ‘301 Publication further teaches “extracting data from the at least one monitored specific data source; analyzing the extracted data; establishing a communication channel with a user based at least in part on the analyzed data.” *Id.*, Claim 2; Ex. 1004, ¶208.

Claim 1 is obvious in view of the ‘301 Publication and Schultz. *Id.*, ¶209.

## **2. Claims 10 and 19**

The additional limitations of Claim 10 (memory and a processor) and Claim 19 (program code executed by a processor) are taught in the ‘301 Publication. Ex. 1014, Claims 10 and 19; Ex. 1004, ¶210. Ex. 1004, ¶210.

## **3. Claims 2, 11 and 20**

The additional limitations of these claims are met by the ‘301 Publication, which teaches (i) “[t]he method of claim 1, further comprising ... analyzing the extracted data” (*id.*, Claim 2), and (ii) that “customers and/or users may provide feedback. ... [T]he feedback may also be generated based on the communication channel established at block 116.” *Id.*, [0032]; Ex. 1004, ¶211.

## **4. Claims 3 and 12**

The additional limitations of these claims are met by the ‘301 Publication, which teaches “[t]he method of claim 2, further comprising visualizing at least the extracted data, the analyzed data, or a combination thereof.” *Id.*, Claim 3; Ex. 1004, ¶212.

## **5. Claims 4 and 13**

The additional limitations of these claims are met by the ‘301 Publication, which teaches “[t]he method of claim 1, in which expanding the query comprises expanding the search terms to include at least misspellings, synonyms, sub-topics, antonyms, or a combination thereof.” *Id.*, Claim 4; Ex. 1004, ¶213.

**6. Claims 5 and 14**

The additional limitations of these claims are met by the ‘301 Publication, which teaches “[t]he method of claim 1, further comprising: refining the search terms based at least in part on the executed query, and in which the monitoring is performed to monitor for matches to a refined query.” *Id.*, Claim 5; Ex. 1004, ¶214.

**7. Claims 6 and 15**

The additional limitations of these claims are met by the ‘301 Publication, which teaches “[t]he method of claim 1, in which the plurality of data sources include open-source data sources that are publicly available and closed-source data sources that at not publicly accessible.” *Id.*, Claim 6; Ex. 1004, ¶215.

**8. Claims 7 and 16**

The additional limitations of these claims are met by the ‘301 Publication, which teaches “[t]he method of claim 1, in which the query is a natural language query...” *Id.*, Claim 7; Ex. 1004, ¶216.

**9. Claims 8 and 17**

The additional limitations of these claims are met by Schultz, which teaches non-textual data in the form of an image. Ex. 1013, 12:49-53 and 12:66-13:4; Ex. 1004, ¶217.

## **10. Claims 9 and 18**

The additional limitations of these claims are met by the ‘301 Publication, which teaches “[t]he method of claim 1, in which the monitoring comprises deploying extractors to each of specific data source, a number of extractors being dynamic based at least in part on a traffic volume of each specific data source.” Ex. 1014, Claim 9; Ex. 1004, ¶218.

## **XI. THE PARALLEL LITIGATION DOES NOT WARRANT DISCRETIONARY DENIAL**

Regardless of any factors that otherwise apply, “the PTAB will not discretionarily deny institution of an IPR or PGR in view of parallel district court litigation where a petitioner stipulates not to pursue in a parallel district court proceeding the same grounds as in the petition or any grounds that could have reasonably been raised in the petition.” *Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation*, 7 (USPTO Dir. June 21, 2022). Petitioner stipulates that, should the Board institute review, Petitioner will not pursue in parallel district court proceedings the same grounds as in the Petition or any grounds that could have reasonably been raised in the petition. The issues raised in this Petition and the Litigation will not overlap.

In addition, there has been minimal investment by the Court and parties in the Litigation, and the claims have not been construed.

Finally, discretionary denial is not warranted because this Petition presents compelling evidence of unpatentability.

## **XII. THE ADVANCED BIONICS FRAMEWORK DOES NOT WARRANT DISCRETIONARY DENIAL**

The Board should not exercise its discretion to deny institution under *Advanced Bionics, LLC v. Med-El Elektromedizinische Geräte GMBH*, IPR2019-01469, Paper 6 at 7-9 (PTAB Feb. 13, 2020) (precedential) because the references relied in the Petition were not considered for purposes of prior art during prosecution, and the arguments for unpatentability in this Petition were not raised during prosecution. Also, it is clear that the Office erred in a manner material to the patentability. As explained in Sections III and IV, *supra*, given the lack of written description support in either the Provisional Application or the ‘313 Application, the effective filing date of the ‘712 Patent is no earlier than December 4, 2015. The Examiner evidently failed to appreciate this issue because the ‘712 Patent was “examined under the pre-AIA first to invent provisions” (Ex. 1006, at 90) -- which only apply to applications with an effective filing date before March 16, 2013. To the extent Patent Owner argues that the combination of the ‘301 Patent and Schultz (in Ground 13) is cumulative of the combination of the ‘977 Patent and Ah-Pine used to reject the claims for double-patenting during prosecution, such an argument provides no basis for discretionary denial. Rather, it is apparent that, as a result of the Office’s failure to appreciate that the effective filing date of the ‘712 Patent is no

earlier than December 4, 2015, the Office erred in limiting application of the ‘977 Patent disclosure and Ah-Pine to a double-patenting rejection when those teachings (through the ‘301 Publication) supported a statutory rejection for obviousness.

### **XIII. CONCLUSION**

Petitioner respectfully requests that the Board institute an IPR and enter a final written decision finding the Challenged Claims unpatentable.

Respectfully submitted,

Dated: August 23, 2024

By: /s/ Michael F. Snyder  
Michael F. Snyder  
Registration No. 58,347

*Counsel for Petitioner  
UiPath, Inc.*

## **CERTIFICATE OF COMPLIANCE WITH WORD COUNT**

Pursuant to 37 C.F.R. § 42.24(d), I certify that this Petition complies with the type-volume limits of 37 C.F.R. § 42.24(b)(1) because it contains 13,998 words, excluding the parts of this Patent Owner's Response that are exempted by 37 C.F.R. § 42.24(a), according to the word processing system used to prepare this Petition.

Dated: August 23, 2024

By: /Michael F. Snyder /  
Michael F. Snyder  
Registration No. 58,347

*Counsel for Petitioner*  
*UiPath, Inc.*

**CERTIFICATE OF SERVICE**

The undersigned certifies that pursuant to 37 C.F.R. § 42.6(e), a copy of the foregoing **PETITION FOR *INTER PARTES* REVIEW UNDER 35 U.S.C. § 312 AND 37 C.F.R. § 42.104**, the associated **Power of Attorney**, and **Exhibits 1001-1028** was served via UPS Overnight Delivery on August 23, 2024 to the Patent Owner's counsel of record as follows:

Seyfarth Shaw LLP  
Attn: Puya Partow-Navid, Esquire  
2029 Century Park East, Suite 3500  
Los Angeles, CA 90067-3063

with a courtesy copy to Patent Owner's litigation counsel:

Christine E. Lehman, Esquire  
Reichman Jorgensen Lehman & Feldberg LLP  
1909 K Street, NW, Ste 800  
Washington, DC 20006

Dated: August 23, 2024

By: /Michael F. Snyder /  
Michael F. Snyder  
Registration No. 58,347

*Counsel for Petitioner*  
*UiPath, Inc.*