

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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COMCAST CABLE COMMUNICATIONS, LLC,  
Petitioner,

v.

VEVEO, INC.,  
Patent Owner.

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Case IPR2017-00933  
Patent 8,122,034 B2

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Before LYNNE E. PETTIGREW, MINN CHUNG, and  
KEVIN C. TROCK, *Administrative Patent Judges*.

CHUNG, *Administrative Patent Judge*.

DECISION

Denying Institution of *Inter Partes* Review  
35 U.S.C. § 314(a) and 37 C.F.R. § 42.108

## I. BACKGROUND

### A. Introduction

Comcast Cable Communications, LLC (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 1–30 (the “challenged claims”) of U.S. Patent No. 8,122,034 B2 (Ex. 1101, “the ’034 patent”). Veveo, Inc. (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”). We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314(b); 37 C.F.R. § 42.4(a).

The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted unless the information presented in the Petition “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Upon consideration of the Petition and the Preliminary Response, we conclude that the information presented in the Petition does not establish a reasonable likelihood that Petitioner would prevail in showing the unpatentability of any of the challenged claims on the grounds set forth in the Petition. Accordingly, we deny Petitioner’s request to institute an *inter partes* review of claims 1–30 of the ’034 patent.

### B. Related Proceedings

The parties indicate that the ’034 patent is the subject of the following proceedings: *Rovi Guides, Inc. v. Comcast Corp.*, No. 1:16-cv-09278 (S.D.N.Y.) (transferred from E.D. Tex., No. 2:16-cv-00321); *Comcast Corp. v. Rovi Corp.*, No. 1:16-cv-03852 (S.D.N.Y.). Pet. 2–3; Paper 4, 2. The

'034 patent is also the subject of a co-pending petition for *inter partes* review filed by Petitioner in IPR2017-00932.

## II. THE '034 PATENT

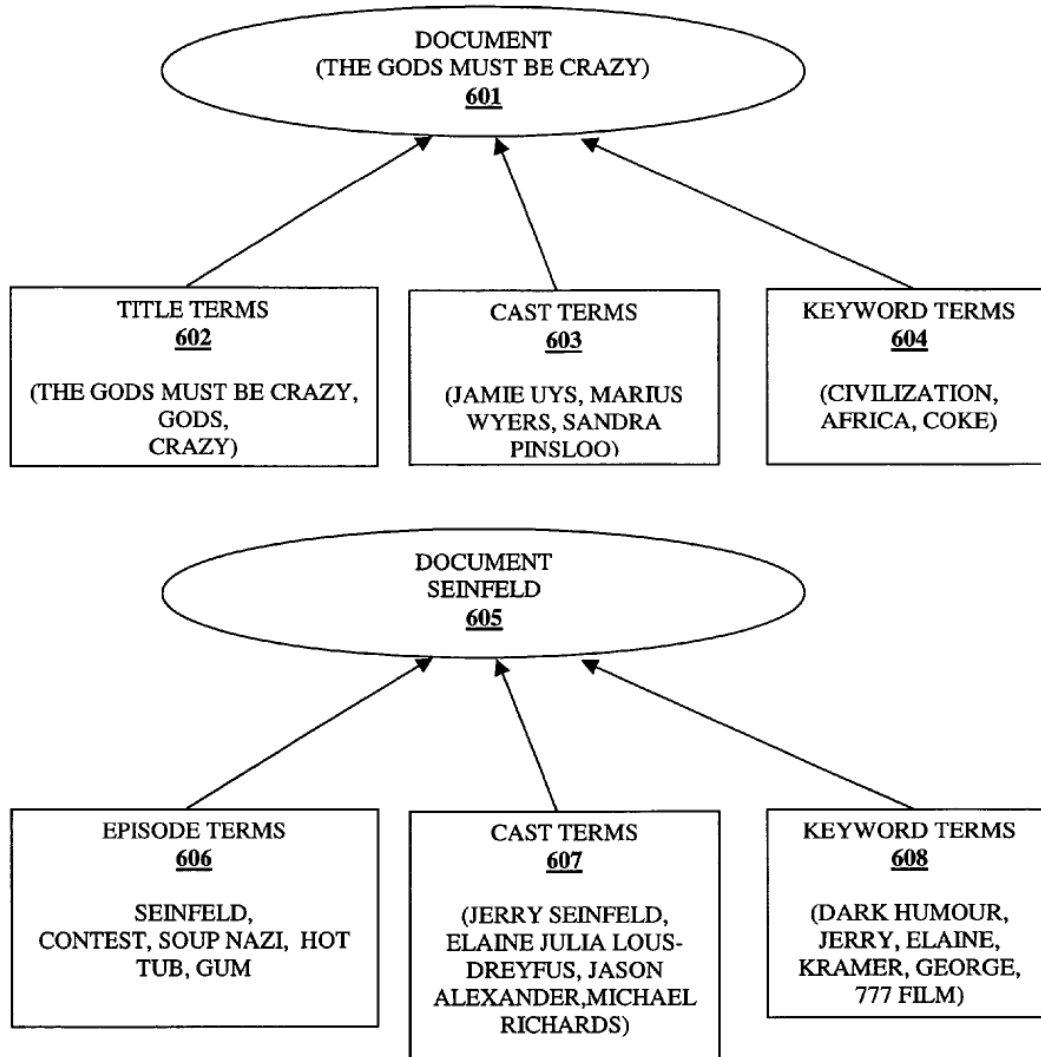
### *A. Background*

The '034 patent is directed to searching techniques to find content, channels, or other items on television. Ex. 1101, 1:24–26. As background, the '034 patent describes that, although early television systems had relatively simple user interfaces for finding television content, conventional user interfaces using remote control devices have become inadequate to find channels and content of interest quickly and easily due to significant proliferation of content choices and options. *Id.* at 1:27–43. Because of text input limitations for television-based search, according to the '034 patent, it is desirable to reduce text entry and obtain the intended search result without having to enter the full search text. *Id.* at 2:17–22.

### *B. Described Invention*

The '034 patent is titled, “Method and System for Incremental Search with Reduced Text Entry Where the Relevance of Results Is a Dynamically Computed Function of User Input Search String Character Count.” *Id.* at [54]. The '034 patent describes a method and system for performing incremental searches with text entry reduced to prefix substrings, i.e., the first few characters, of a search query, such that the relevance ordering of results is computed as a function of the number of characters entered by a user in the input query. *Id.* at 2:39–45.

The '034 patent describes that in a pre-processing phase the descriptions of content items are broken into terms, which are grouped into various subspaces of interest. *Id.* at 6:46–7:25. Figure 6A of the '034 patent is reproduced below.



**FIG. 6A**

Figure 6A illustrates different types of terms or their combinations that may be used to find content items, such as a movie or a TV series. *Id.* at 3:65–67. Figure 6A shows searchable document 601, i.e., a movie titled “The Gods Must be Crazy,” associated with terms that can be used to find the

document. *Id.* at 7:42–44. The search terms are organized into subspace categories, such as title terms 602, cast terms 603, and keyword terms 604. *Id.* at 7:44–45.

According to the '034 patent, each content item is assigned a popularity value, and each term identifying the item is given a relevance value based on the information content of the term. *Id.* at 6:66–7:3. The instant relevance of any given document to a query string depends on the absolute popularity of that document and the relative relevance contributions of the associated terms matched by the search query. *Id.* at 7:3–7. In addition, each subspace is given a bias value, which causes certain subspaces of terms to have a higher relevance than other subspaces. *Id.* at 7:34–37. The subspace bias value is a function of the number of characters entered. *Id.* at 7:35–36.

Figure 7 of the '034 patent is reproduced below.

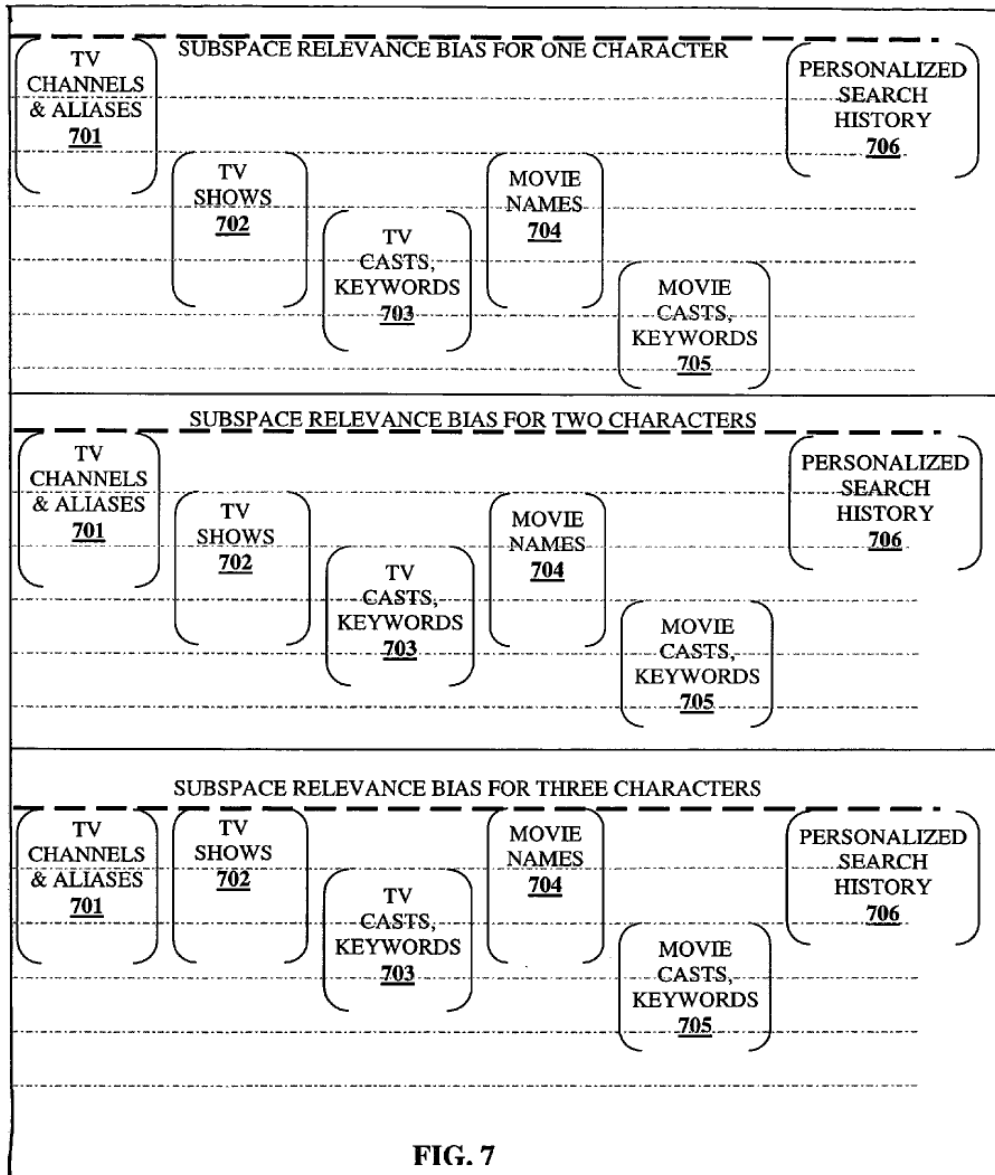


Figure 7 illustrates selective biasing of different subspaces 701 to 705 as a function of the number of characters entered. *Id.* at 7:63–65. As shown in Figure 7, the TV Channels & Aliases subspace 701 is given a relevance boost for the first character so that channels appear first in the search result when only one character is entered. *Id.* at 7:37–41. As illustrated in Figure 7, the subspace bias value for TV Shows subspace 702 increases as more

characters are entered, such that the TV Shows subspace can supersede low popularity channels, or even all channels, depending on how the bias values are set. *Id.* at 8:22–26.

During a search, each time a user enters a search string character, the system dynamically retrieves the search results for the cumulative substring that have been entered and orders the retrieved results based on the popularity of the retrieved items and the relevance of the terms matching the substring, as adjusted by subspace relevance biasing. *Id.* at 6:6–15, 7:3–7, 9:26–34. As discussed above, subspace relevance biasing depends on the number of characters that have been entered. The ordered results are displayed in a result window, as illustrated in Figure 8A (not reproduced herein). *Id.* at 9:26–34. According to the '034 patent, the key role of subspace relevance biasing is to facilitate obtaining the desired search results on the visible results list with the entry of a small number of characters, such as the first 3 to 4 characters. *Id.* at 8:6–9.

### *C. Illustrative Claim*

Of the challenged claims, claims 1 and 16 are independent. Claim 1 is illustrative of the challenged claims and is reproduced below.

1. A method of processing a search request received from a user operating a hand-held text input device, the search request directed at identifying a desired item from a set of items, each of the items having one or more associated terms, the method comprising:

providing the set of items, the items having assigned popularity values to indicate a relative measure of a likelihood that the item is desired by the user;

for each item, associating a set of terms to describe the item and assigning a relevance value for each term based on a relevance of the term in identifying the item, the terms associated with the items being organized into searchable subspace categories, each subspace category having a relevance bias value;

receiving text on the hand-held text input device entered by the user, the text having one or more text characters of one or more prefixes for terms the user is using to identify a desired item;

in response to receiving a text character, performing a first incremental find to compare the one or more user-entered prefixes with the terms associated with the items and to retrieve the relevance values for the one or more user-entered prefixes matching terms associated with the items;

determining a first ranking order of items found in the first incremental find based at least in part on the retrieved relevance values and the assigned popularity values of the items found in the first incremental find;

ordering and presenting one or more items to the user found in the first incremental find based on the first ranking order;

in response to receiving at least one subsequent text character, performing a second incremental find to compare the one or more user-entered prefixes, including the at least one subsequent text character and any preceding text characters, with the terms associated with the items and to retrieve the relevance values for said one or more user-entered prefixes matching terms associated with the items;

determining a count of the number of characters of text received from the user;

adjusting the relevance value assigned to at least one of the terms associated with one or more of the items retrieved in response to the one or more user-entered prefixes, wherein the adjusting of the relevance value is based on the count of the number of text characters received from the user;



determining a second ranking order of the items found in the second incremental find based at least in part on the adjusted relevance values and the assigned popularity values of the items found in the second incremental find;  
and

ordering and presenting one or more items to the user based on the second ranking order so that the relative order of the items found in both the first and second incremental finds is adjusted as characters are entered;

wherein at least one of determining the first ranking order and determining the second ranking order is further based on the relevance bias values of the subspace categories.

Ex. 1101, 10:33–11:25.

### III. PETITIONER'S CHALLENGES

#### *A. Prior Art Cited in Petitioner's Challenges*

Petitioner cites the following references in its challenges to patentability.

| References and Relevant Dates  | Designation         | Exhibit No. |
|--|---------------------|-------------|
| U.S. Patent No. 7,039,635 B1 (filed Aug. 22, 2002; issued May 2, 2006)         | Morgan <sup>1</sup> | Ex. 1102    |
| U.S. Patent No. 6,718,324 B2 (issued Apr. 6, 2004)                             | Edlund              | Ex. 1103    |
| International Patent App. Pub. No. WO 2004/010323 A2 (published Jan. 29, 2004) | Lowles              | Ex. 1104    |
| U.S. Patent App. Pub. No. 2004/0267815 A1 (published Dec. 30, 2004)            | De Mes              | Ex. 1105    |

#### *B. Asserted Grounds of Unpatentability*

Petitioner asserts the following grounds of unpatentability (Pet. 10):

| Claims Challenged                      | Statutory Basis | References                 |
|--|-----------------|----------------------------|
| 1, 4, 6–8, 11–16, 19, 21–23, and 26–30 | § 103(a)        | Morgan and Edlund          |
| 2, 5, 9, 10, 17, 20, 24, and 25        | § 103(a)        | Morgan, Edlund, and Lowles |
| 3 and 18                               | § 103(a)        | Morgan, Edlund, and De Mes |

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<sup>1</sup> For clarity and ease of reference, we only list the first named inventor.

#### IV. CLAIM CONSTRUCTION

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *see Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard as the claim construction standard to be applied in an *inter partes* review proceeding). Under the broadest reasonable interpretation standard, and absent any special definitions, claim terms generally are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art, in view of the specification. *In re Translogic Tech. Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Petitioner and Patent Owner address the claim terms “subspace category” and “relevance bias value.” Pet. 13–14; Prelim. Resp. 11–15. Petitioner also discusses the claim terms “item,” “the text having one or more text characters of one or more prefixes for terms the user is using to identify a desired item,” and “the count of the number of text characters.” Pet. 11–13. In addition, Petitioner has submitted the Claim Construction Opinion and Order (Ex. 1114) from the related district court litigation.

For the purposes of this decision, we need not construe explicitly any claim terms to determine whether there is a reasonable likelihood of Petitioner prevailing with respect to the challenged claims. *See Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) (explaining that “claim terms need only be construed ‘to the extent necessary

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

## V. ANALYSIS OF PETITIONER’S PRIOR ART CHALLENGES

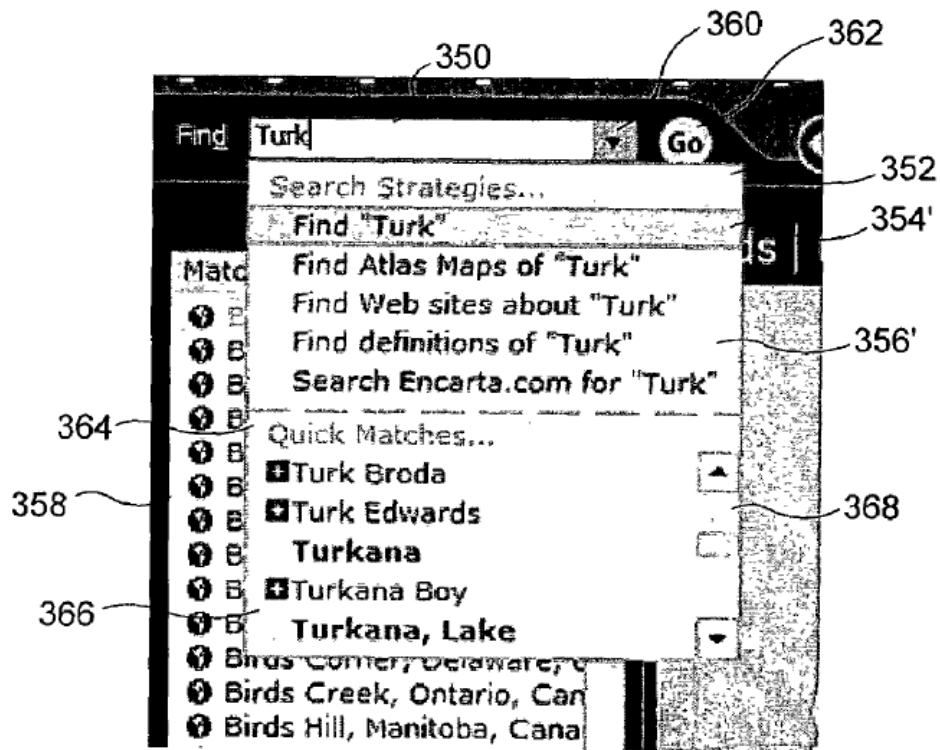
### *A. Obviousness over Morgan and Edlund*

Petitioner contends claims 1, 4, 6–8, 11–16, 19, 21–23, and 26–30 are unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of Morgan and Edlund. Pet. 19–53. Petitioner submits a Declaration of Dr. Edward A. Fox (Ex. 1107) in support of its contentions. We have reviewed the parties’ contentions and supporting evidence. Given the evidence of record, we are not persuaded that Petitioner has established a reasonable likelihood of prevailing on this asserted ground as to any of these challenged claims for the reasons explained below.

#### *1. Overview of Morgan (Ex. 1102)*

Morgan discloses a method for presenting or suggesting possible searches based on input characters entered by a user. Ex. 1102, Abstract. When a user enters a first input character in a Find dialog box, separate lists of quick matches and search strategies corresponding to the input character are generated by searching the content data and identifying items related to the input character. *Id.* at 3:32–39, Abstract. The quick match list may have one or more items, each having a word that begins with the input character. *Id.* at 3:39–40. The search strategies are English-like search suggestions that are related to the input character. *Id.* at 7:67–8:1. As the user enters additional characters in the Find dialog box, the lists of quick matches and search strategies are dynamically updated. *Id.* at 3:43–46, Abstract.

Figure 7B of Morgan is reproduced below.

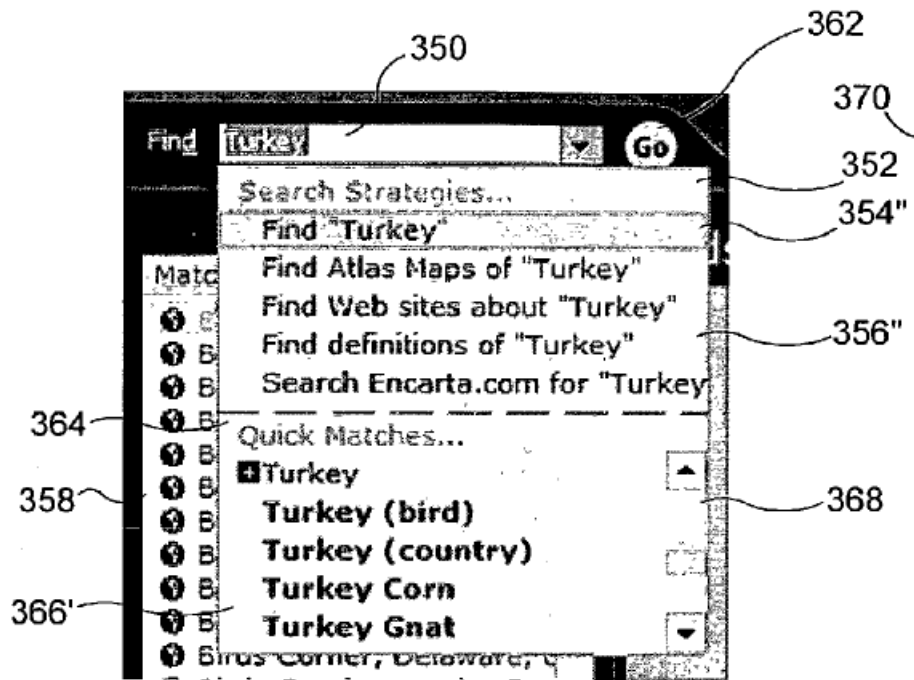


**FIG. 7B**

Figure 7B illustrates Find dialog box 350 after the user has entered input characters "Turk." *Id.* at 10:33–34. As shown in Figure 7B, search strategies list 352 includes search strategies 356' that correspond to the characters input by the user. *Id.* at 10:34–36. The search strategies list includes search suggestions to search different proposed data sources (e.g., Encarta.com in this example) or different proposed data categories (e.g., maps, Web sites, or definitions), which are related to the input string. *Id.* at 7:67–8:3, 8:5–8. Figure 7B also shows quick matches list 364 of quick matches 366 that begin with the input string entered by the user. *Id.* at 10:36–39, 3:39–40. As further characters are input by the user, search

strategies list 352 and quick matches list 364 are dynamically updated with the corresponding entries. *Id.* at 10:44–46.

Figure 8 of Morgan is reproduced below.



**FIG. 8**

Figure 8 illustrates Find dialog box 350, updated search strategies list 352, and updated quick matches list 364 after the user has input the full word “Turkey.” *Id.* at 10:46–51. The user can select any of the listed search strategies or the quick matches to launch a search that best matches the input string. *Id.* at 10:51–58. In the alternative, the user can simply press the Enter key or Go control button 362 to perform a search with the input string. *Id.* at 10:54–58. The results of the selected search are displayed in search results pane 358. *Id.* at 10:51–58.

2. Overview of Edlund (Ex. 1103)

Edlund discloses a system and method for ranking and sorting search results from a search engine. Ex. 1103, Abstract. According to Edlund, traditional search engines, such as the Internet search engines, simply sort the search results based on the “hits” or “hit count” of the results, and do not associate the search results (or their sorting order) with the specific search query string. *Id.* at 2:38–52. Edlund describes sorting the results returned from the search engines by ranking the results based on a combination of relevancy and popularity of the returned documents in relation to the query string. *Id.* at 3:43–4:23.

For example, the content relevance is computed by matching the query search terms to words in a returned document. *Id.* at 3:46–47. Edlund also monitors and stores the user queries and search results, and calculates the popularity of a returned document based on whether the same document was located by similar searches in the past. *Id.* at 3:54–4:17. The results from the search engine are sorted by popularity first, then by relevance, of the returned documents, and returned to the user. *Id.* at 4:17–23.

3. Discussion

a. Independent Claims 1 and 16

Petitioner contends that the combination of Morgan and Edlund teaches or renders obvious all limitations of independent claims 1 and 16. Pet. 19–36, 42–50. Patent Owner disagrees and argues that Petitioner’s analysis is deficient in several aspects. Prelim. Resp. 17–32. Because of the similarity between the limitations recited in claims 1 and 16, in what follows we discuss claim 1 first, and then address claim 16 to the extent any

meaningful differences exist between the claims or in the parties' arguments regarding the claims. For both claims, our analysis focuses on the limitations relating to the "relevance value for . . . term(s)" and the "popularity values of the items" recited in the claims.

*"for each item, associating a set of terms to describe the item and assigning a relevance value for each term based on a relevance of the term in identifying the item"*  
*and*  
*"performing a first incremental find to compare the one or more user-entered prefixes with the terms associated with the items and to retrieve the relevance values for the one or more user-entered prefixes matching terms associated with the items"*

Claim 1 recites "for each item, associating a set of terms to describe the item and assigning a relevance value for each term based on a relevance of the term in identifying the item" and "performing a first incremental find . . . to retrieve the relevance values for the one or more user-entered prefixes matching terms associated with the items." From the plain language of these limitations, we understand "retrieving the relevance values" to mean retrieving the relevance values that are assigned to terms describing items based on the relevance of the terms in identifying the items.

Petitioner acknowledges that Morgan "may not *expressly disclose* a process for *actually retrieving 'relevance values* for the one or more user-entered prefixes matching terms associated with the items.'" Pet. 28 (emphases added). Citing the Declaration of Dr. Fox, Petitioner nonetheless argues that Morgan discloses "identification of search strategies and quick matches that meet or exceed a threshold relevance such that they should be listed." *Id.* (citing Ex. 1107 ¶ 135). Dr. Fox opines this means that Morgan



“retrieves ‘relevance values for the one or more user-entered prefixes matching terms associated with the items,’ as [recited in] claim 1.” Ex. 1107 ¶ 135.

It is unclear what Petitioner argues because Dr. Fox’s testimony cited by Petitioner seems to contradict Petitioner’s apparent concession that Morgan does *not* “expressly disclose” a process for “actually retrieving ‘relevance values for the one or more user-entered prefixes matching terms associated with the items.’” *See* Pet. 28; Ex. 1107 ¶ 135. Regardless what Petitioner’s argument may be, we are not persuaded that Morgan teaches a process “to retrieve the relevance values for the one or more user-entered prefixes matching terms associated with the items,” as recited in claim 1.

Dr. Fox opines that Morgan discloses “retriev[ing] ‘relevance values for the one or more user-entered prefixes matching terms associated with the items,’ as [recited in] claim 1” because Morgan “identifies search strategies and quick matches that meet or exceed a threshold relevance such that they should be listed.” Ex. 1107 ¶ 135 (citing Ex. 1102, 2:3–8, 7:61–8:2, 8:52–63, 9:19–27). However, neither Dr. Fox nor Petitioner identifies anything in the cited portions of Morgan that discloses retrieving relevance values for terms associated with items. The cited portions of Morgan describe ranking retrieved search results according to their likely relevance to the input text (Ex. 1102, 2:3–8), retrieving quick match lists from the results of searching content data and identifying items matching the input text (*id.* at 7:61–8:2, 8:52–63), or generating search strategies algorithmically by processing the input text string (*id.* at 7:61–8:2, 9:19–27). We do not discern anything in the cited passages that teaches *retrieving* relevance *values* assigned to *terms*

based on the relevance of the terms in identifying items, as recited in claim 1. Nor does Petitioner explain how the cited disclosure teaches the recited limitation. Hence, Petitioner's argument and evidence is insufficient to establish Morgan teaches the limitation of claim 1 reciting "performing a first incremental find . . . to retrieve the relevance values for the one or more user-entered prefixes matching terms associated with the items."

To the extent Petitioner argues inherency, Petitioner's argument is unpersuasive because neither Petitioner nor Dr. Fox explains why retrieving relevance values for user-entered prefixes matching terms associated with items is the "the natural result flowing from" the cited disclosure of Morgan. *See PAR Pharm., Inc. v. TWI Pharm., Inc.*, 773 F.3d 1186, 1195 (Fed. Cir. 2014) (quoting *In re Oelrich*, 666 F.2d 578, 581 (CCPA 1981)).

Petitioner contends that, even if Morgan does not teach retrieving relevance values, Edlund does. Pet. 28. Petitioner asserts that Edlund assigns a document a "content relevance," which, according to Petitioner, is "a matching of the query search term to words in a document." *Id.* (citing Ex. 1103, 3:46–48).

Patent Owner asserts that Petitioner's argument is insufficient because Petitioner does not show where Edlund discloses retrieving relevance values for terms associated with content items. Prelim. Resp. 27–28. We agree with Patent Owner's argument.

Petitioner acknowledges that Edlund discloses "a data flow utilized to search for items based on a combination of *each item's relevance value* and popularity value." Pet. 28 (emphasis added) (citing Ex. 1103, 3:46–48, Fig. 1). As discussed above in the Overview of Edlund subsection, Edlund

describes sorting the results returned from the search engines by ranking the results based on a combination of relevancy and popularity of the returned documents in relation to the query string. Ex. 1103, 3:43–4:23. Hence, the Petitioner-cited portion of Edlund may teach relevance of content *items* in ranking search results, but it does *not* teach relevance values for *terms* in identifying the items, as recited in claim 1. In addition, Petitioner does not explain how Edlund teaches or suggests *retrieving* those relevance values. The Petitioner-cited portion of Edlund may teach retrieving search results, but Petitioner does identify, nor do we discern, anything in the cited portion of Edlund that teaches retrieving relevance values for terms in identifying the items. Thus, Petitioner’s argument and evidence is insufficient to establish Edlund teaches “performing a first incremental find . . . to retrieve the relevance values for the one or more user-entered prefixes matching terms associated with the items,” as recited in claim 1.

*“determining a first ranking order of items found in the first incremental find based at least in part on the retrieved relevance values and the assigned popularity values of the items found in the first incremental find”*

Petitioner relies on Morgan alone to teach the limitation of claim 1 reciting “determining a first ranking order of items found in the first incremental find based at least in part on the retrieved relevance values and the assigned popularity values of the items found in the first incremental find.” Pet. 29–30. Petitioner identifies the “search strategies” disclosed in Morgan as the claimed “items,” and contends that Morgan “identifies the items that have a threshold relevance value” and “then ranks the identified

relevant items according to popularity.” *Id.* (citing Ex. 1102, 12:21–23, 31–36, Fig. 4 (steps 202, 206, 210, 212); Ex. 1107 ¶ 139).

Patent Owner argues that Morgan does not teach ordering items based on popularity values. Prelim. Resp. 25. We agree with Patent Owner’s argument.

The Petitioner-cited portion of Morgan discloses parsing the input search string into parts of speech and tokens, and finding content data types, aliases, or tokens that match the parts of speech and tokens parsed from the input string. Ex. 1102, 12:2–20. A list of potential search strategies are then created from the matches, and are *ranked by priority* such that “the most likely intended strategies” are placed near the top of the list and the lower priority strategies are moved to near the bottom of the list. *Id.* at 12:21–36.

Petitioner’s argument that Morgan “ranks the identified relevant items according to popularity” (Pet. 30) is unpersuasive because Petitioner does not explain why Morgan’s disclosure of ranking search strategies by priority, i.e., the likely intent of the user, teaches ranking by popularity as claimed. Petitioner’s citation to Dr. Fox’s testimony is unpersuasive because Dr. Fox essentially repeats Petitioner’s argument without providing any reasoning or explanation. *See* Ex. 1107 ¶ 139. Thus, Petitioner’s argument and Dr. Fox’s testimony are conclusory and do not include a reasoned analysis sufficient to establish obviousness. *See In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

Furthermore, Petitioner does not explain how Morgan teaches ranking the search strategies, i.e., the claimed “items,” based on “the *assigned* popularity values of the items,” as recited in claim 1. Petitioner does not

identify, nor do we discern, anything in Morgan that teaches *assigning* popularity *values* to search strategies. Thus, Petitioner’s argument and evidence is insufficient to establish Morgan teaches “determining a first ranking order of items found in the first incremental find based at least in part on the retrieved relevance values and the assigned popularity values of the items found in the first incremental find,” as recited in claim 1.

Therefore, Petitioner does not show sufficiently the combination of Morgan and Edlund teaches or renders obvious all limitations of claim 1.

#### *Corresponding Limitations of Claim 16*

As acknowledged by Petitioner, independent claim 16 is an apparatus claim reciting limitations similar to claim 1. *See* Pet. 42. Indeed, similar to claim 1, claim 16 recites “retrieving the relevance values for . . . terms associated with the items” and “the first ranking order of the one or more items . . . being based on the assigned popularity values of the items and being based on the retrieved relevance values for . . . terms associated with the items.” Ex. 1101, 12:32–55.

With respect to the limitation of claim 16 reciting “retrieving the relevance values for . . . terms,” Petitioner refers to and relies upon its arguments and evidence presented with respect to the corresponding limitation recited in claim 1. *See* Pet. 46–47. Hence, Petitioner’s contentions fail for the same reasons discussed above with respect to claim 1.

With regard to the limitation of claim 16 reciting “the first ranking order of the one or more items . . . being based on the assigned popularity values of the items and being based on the retrieved relevance values for . . .

terms associated with the items,” Petitioner relies on Morgan alone, similar to its analysis of the corresponding limitation recited in claim 1. *See id.* at 47–48. Petitioner also refers to and relies on essentially the same or similar argument and evidence as those presented with respect to the corresponding limitation of claim 1. *See id.* (citing Ex. 1107 ¶¶ 139, 194; Ex. 1102, 9:19–21, 12:32–36, 3:32–40, 3:64–4:1, Fig. 4 (step 212)).

Similar to Petitioner’s analysis of the corresponding limitation recited in claim 1, neither Petitioner nor Dr. Fox explains why Morgan’s disclosure of ranking search strategies by priority, i.e., the likely intent of the user, teaches ranking items based on the “assigned popularity values of the items,” as recited in claim 16. Thus, Petitioner’s argument and evidence is insufficient to establish Morgan teaches “the first ranking order of the one or more items . . . being based on the assigned popularity values of the items and being based on the retrieved relevance values for . . . terms associated with the items,” as recited in claim 16.

Therefore, for the reasons similar to those discussed above with respect to claim 1, Petitioner does not show sufficiently that the combination of Morgan and Edlund teaches or renders obvious all limitations of claim 16.

### *Conclusion*

Accordingly, based on the record presented, the information presented in the Petition does not demonstrate a reasonable likelihood of Petitioner prevailing in its challenge to independent claims 1 and 16 under 35 U.S.C. § 103(a) as obvious over the combination of Morgan and Edlund.

*b. Dependent Claims 4, 6–8, 11–15, 19, 21–23, and 26–30*

Claims 4, 6–8, 11–15, 19, 21–23, and 26–30 each depend directly or indirectly from claims 1 or 16. Petitioner’s arguments and evidence presented with respect to these dependent claims do not remedy the deficiencies in Petitioner’s analysis of claims 1 and 16 discussed above. *See* Pet. 36–42, 50–53. Therefore, Petitioner does not demonstrate a reasonable likelihood of prevailing in its challenge to dependent claims 4, 6–8, 11–15, 19, 21–23, and 26–30 under 35 U.S.C. § 103(a) as obvious over the combination of Morgan and Edlund.

*B. Obviousness over Morgan, Edlund, and Lowles or  
over Morgan, Edlund, and De Mes*

Claims 2, 3, 5, 9, 10, 17, 18, 20, 24, and 25 each depend directly or indirectly from claims 1 or 16. Petitioner adds the teachings of Lowles (Ex. 1104) to the basic combination of Morgan and Edlund in an asserted ground of obviousness as to claims 2, 5, 9, 10, 17, 20, 24, and 25. Pet. 53–58. Similarly, Petitioner adds the teachings of De Mes (Ex. 1105) to the basic combination of Morgan and Edlund in an asserted ground of obviousness as to claims 3 and 18. *Id.* at 58–59.

In both of these asserted grounds, Petitioner relies on Lowles or De Mes only to teach the additionally recited limitations of these dependent claims. *Id.* at 53–59. Therefore, Petitioner’s evidence and arguments presented with respect to these asserted grounds of obviousness do not remedy the deficiencies in Petitioner’s analysis in the ground based on Morgan and Edlund discussed above. Accordingly, Petitioner does not demonstrate a reasonable likelihood of Petitioner prevailing in its challenge

to claims 2, 3, 5, 9, 10, 17, 18, 20, 24, and 25 under 35 U.S.C. § 103(a) as obvious over the combination of Morgan, Edlund, and Lowles. Similarly, Petitioner does not demonstrate a reasonable likelihood of Petitioner prevailing in its challenge to claims 3 and 18 under § 103(a) as obvious over the combination of Morgan, Edlund, and De Mes.

## VI. CONCLUSION

Based on the arguments and evidence presented in the Petition, we conclude Petitioner has not demonstrated a reasonable likelihood that Petitioner would prevail in showing at least one of the challenged claims of the '034 patent is unpatentable based on any asserted ground of unpatentability. Therefore, we do not institute an *inter partes* review with respect to any of the challenged claims of the '034 patent.

## VII. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the Petition is *denied* as to all challenged claims of the '034 patent, and no trial is instituted.



IPR2017-00933  
Patent 8,122,034 B2

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