Birch Stewart Kolasch Birch LLP

Pushing Back against Obviousness Rejections Unsupported by Evidence and Lacking Reasoned Explanations

A discussion of *In re Google LLC*

(decided January 9, 2023)

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Introduction

- We'll discuss *In re Google LLC,* decided January 9, 2023 by the Fed Cir, vacating a decision by the Patent Trial and Appeal Board affirming an examiner's final rejection of various claims under 35 USC 103
- Involved application disclosing methods for filtering results of an internet search query so that only age-appropriate results are displayed
- Claims require comparing a score, i.e. proportion of results w/ suitable content rating, to "threshold value…determined based on a number of words in the search query"
- Examiner combined 2 ref's: one comparing a weighted sum of adult-content scores to a predetermined threshold, another using number of query terms to calculate individual relevance scores of retrieved documents
- Neither ref taught determining a *threshold value* based on the number of words in a query, and the rejection (and Board's decision) basically ignored this gap

Patent Application

- App. No. 14/628,093 (US 2016/0246791) entitled “Methods, Systems, and Media for Presenting Search Results”
- Methods for filtering results of internet search query such that only results appropriate for user (e.g., age appropriate) are displayed
- Each result of search query is assigned “content rating class” indicating suitability of its content (e.g., “suitable for all ages”)
- “Content rating score” (i.e. safety score) determined based on collection of content rating classes of individual results & compared to predetermined threshold value to determine whether and which results will be presented

Patent Application

- Content rating score can be determined as a proportion of results associated with content rating classes suitable for children, weighted according to popularity
- Multiple ways threshold can be predetermined
- Can be determined based on parameters associated with the search query itself, such as the length of the search query (e.g., number of words and/or characters of the search query)
- Threshold can be made lower for query with lower # of words
- Specification associates # of words (and/or avg word length) w/ ***age of user***
- More words & avg word length can indicate “search query was entered by an older child, a teenager, and/or an adult”

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Patent Application

1. A method for presenting search results, comprising:

receiving text corresponding to a search query entered on a user device;

determining whether a content rating score associated with the search query is below a predetermined threshold value, ***wherein the predetermined threshold value is determined based on a number of words included in the search query*** and wherein the score is calculated by:

identifying a first plurality of search results retrieved using the search query, wherein each search result in the first plurality of search results is associated with one of a plurality of content ratings classes;

determining, for each search result in the first plurality of search results, a weight […] based on a popularity of the search result; and

calculating the content rating score that is a proportion of search results associated with at least one of the content ratings classes among the first plurality of search results, wherein the proportion of search results associated with at least one of the content ratings classes is calculated using the weight associated with each search result;

in response to determining that the content rating score is below the predetermined threshold value, identifying a second plurality of search results to be presented based on the search query; and

causing the second plurality of search results to be presented on the user device.

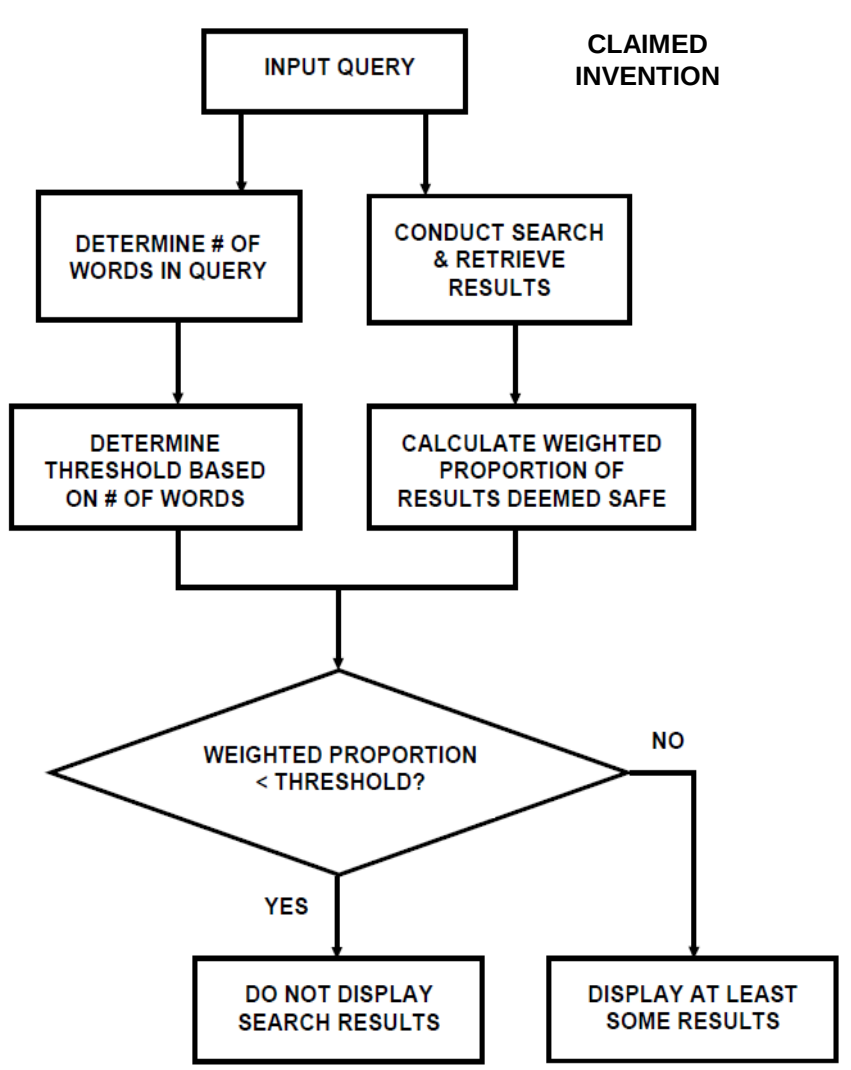
Prior Art

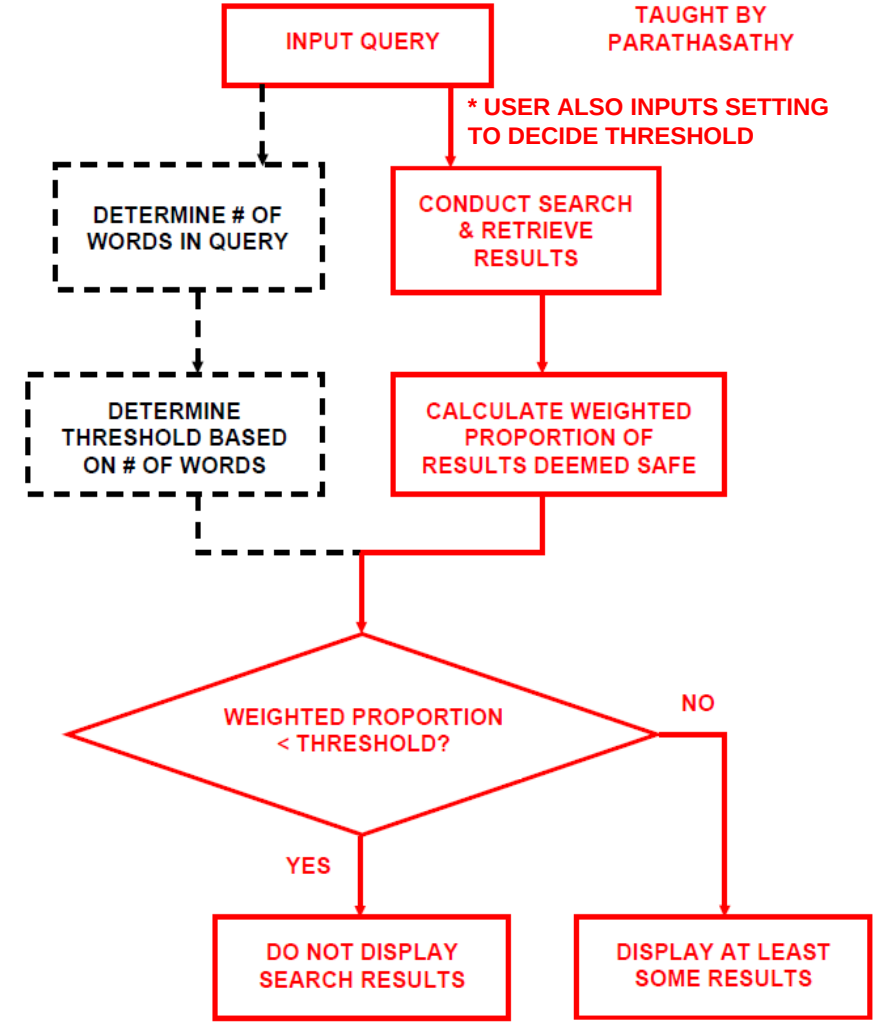
- Parthasarathy (US 2012/0150850)
  - Discloses methods of filtering search results by comparing “search-query-intent” score to a predetermined safety threshold
  - Each search result is assigned relevance rank/score and an “adult-content score” assessed via keywords, metadata, advertising, etc.
  - Search-query-intent score is determined by taking weighted sum of adult-content scores of most relevant search results, with weights corresponding to relevance/rank scores
  - User-selected safety setting is associated with numerical threshold
  - Depending on whether search-query-intent score exceeds user-chosen threshold, all, some, or none of the results are displayed

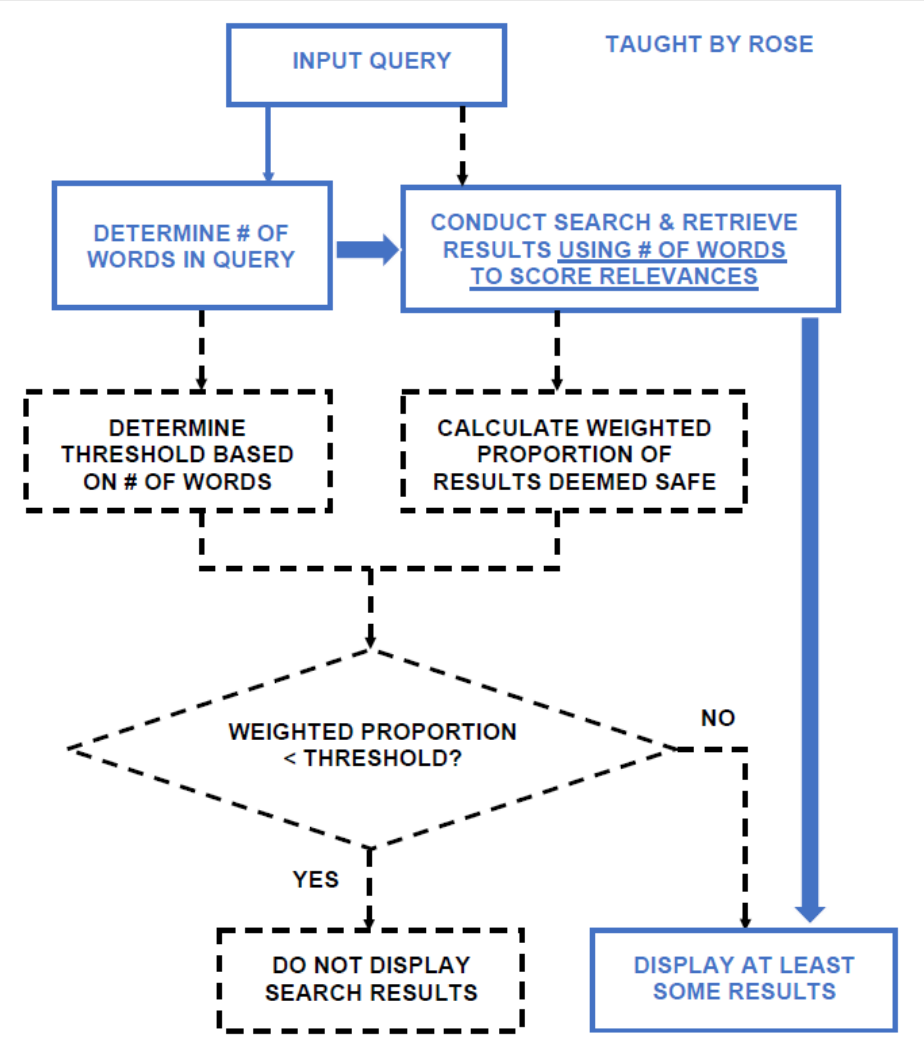
Prior Art

- Rose (US 5,870,740)
  - Addresses “short query problem” in relevance-ranking algorithms of prior art

    When query contains few terms, prior art algorithms incorrectly assign higher relevance to documents including subset of search terms than those including entire query
  - Modifies algorithm to adjust relevance scores based on number of query terms appearing in document & ***number of words in the query*** itself
  - Relevance score of document w/ high overlap is increased more for short query than long query, i.e., relevance adjustment is ***document-dependent***







Prosecution History

- Non-final obviousness rejection based on Parthasarathy
- Google amended claim 1 to add limitation that predetermined threshold value is “determined based on a number of words included in the search query”
- In final rejection, Examiner acknowledged Parthasarathy doesn’t disclose threshold based on number of words, but found that Rose does citing to Rose’s relevance ranking algorithm
- Exr: obvious to combine refs to achieve claimed threshold b/c “analyzing a query for determining the query length and using the query length as a threshold is very well known in the art and doing so would further provide for assigning weight to a long or short query for retrieving documents”

Prosecution History

- Exr also said Parthasarathy's thresholds are configurable design choices & thus amenable to modification
- Google argued Rose only discloses a query-dependent relevance ***score*** and that "a score is clearly different than a threshold value"
- Exr disagreed, Adv Act stated

> The score value as disclosed in Rose is ***equivalent to*** the threshold value as claimed because the threshold is a value which depends on the number of words in the query and increases or decreases based on the number of words in the query (Spec. par. 55) and the score in Rose is also a value which depends on the query length and increases or decreases based on the query length; therefore they are the same.

Prosecution History

- Google appealed to the Board
- Board issued final decision affirming Exr's rejection
- Adopted Exr's findings & purported to "agree with the Examiner" that modifying Parthasarathy's threshold "to take into account query length as taught by Rose" would've been obvious
- Google appealed to Fed Cir

Federal Circuit

- Before Chief Judge Moore, Circuit Judges Lourie & Prost
- Review legal conclusions de novo & underlying findings of fact for substantial evidence (i.e. whether a reasonable person might find that the evidentiary record supports the agency's conclusion)

Law of Obviousness

- Basic ***Factual Inquiries*** of *Graham v. John Deere Co.* (383 U.S. 1 (1966))
  - A. Determining the ***scope and content*** of the prior art
    - Must be clearly determined by giving claims "broadest reasonable interpretation." MPEP 2141.II.A, citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005)
  - B. Ascertaining the ***differences*** between the claimed invention and the prior art
    - Requires properly interpreting the claim language. See MPEP 2141.II.B
  - C. Resolving the level of ordinary skill in the pertinent art

Law of Obviousness

- Principles of Obviousness according to *KSR Int'l Co. v. Teleflex, Inc.*
  - "[R]ejections on obviousness grounds cannot be sustained by ***mere conclusory statements***; instead, there must be some ***articulated reasoning*** with some ***rational underpinning*** to support the legal conclusion of obviousness" *KSR*, 550 U.S. 398, 418 (2007)
  - "[W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, that combination must do more than yield the predicatable result" *KSR*, 550 U.S. at 416.

Law of Obviousness

- Exemplary rationales supporting conclusion of obviousness (MPEP 2143.I)
  - A. Combining prior art elements according to known methods to yield predictable results
  - ***B. Simple substitution of one known element for another to obtain predictable results***
  - C. Use of known technique to improve similar devices (methods, or products) in the same way;
  - D. Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
  - ***E. "Obvious to try" – choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success***
  - F. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art;
  - G. Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention

Law of Obviousness

- "Obvious to Try"
  - "When there is a design need or market pressure to ***solve a problem***, and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to puruse the known options within his or her technical grasp. If this leads to the ***anticipated success***, it is likely the product not of innovation but of ordinary skill and comment sense. In that instance the fact that a combination was obvious to try might show that it was obvous under § 103." *KSR*, 550 U.S. at 421.

PTO's Arguments

- Only 2 ways to predictably modify Parthasarathy's threshold to incorporate query length as taught by Rose, and both would have been obvious to try
  - Skilled artisan would've recognized Rose's adjusted reference score could be used to modify either search-query-intent score or threshold in Parthasarathy
- Either modification would predicably result in a threshold based on the number of words in the query
- Since Parthasarathy teaches simple comparison of score & threshold, "the result of the comparison would be exactly the same" whether score is raised or threshold is decreased

Fed. Cir. Opinion

- By C.J. Moore
- Meritorious or not, PTO's arguments can't sustain Board's decision b/c they don't reflect reasoning or findings Board actually invoked
- "[It is a] foundational principle of administrative law that a court may uphold agency action only on the grounds that the agency invoked when it took the action." *Michigan v. E.P.A.*, 576 U.S. 743, 758 (2015)
- Court's review of patentability determination confined to grounds upon which Board actually relied

Fed. Cir. Opinion

- Contrary to PTO's characterization, Board decision didn't rest on finding that there's only 2 ways to modify Parthasarathy using Rose, or suggest such modifications were obvious to try
- Board concluded modifying Parthasarathy's threshold based on query length was obvious, but discussion of ***how*** to accomplish modification is ***entirely absent*** from decision
  - Certainly didn't discuss or suggest PTO's specific modifications

Fed. Cir. Opinion

- Court can't adopt PTO's fact-based arguments in 1st instance of appeal
- "[S]quint as we may," court couldn't see PTO's justifications reflected in the record
- Read in entirety, record suggests Exr & Board didn't rely on Rose to ***modify*** Parthasarathy's threshold at all
- Exr understood Rose to disclose query-length-dependent value that could be ***directly substituted*** for Parthasarathy's threshold
- This is clear from final rejection & Advisory Action

Fed. Cir. Opinion

- In App Brief, Exr said it would've been obvious to "use the technique of calculating a value based on the number of words included in the search query a taught by Rose ***as a configurable threshold value*** to which a different score is compared as taught by Parthasarathy"
- While Board purported to "agree" with Exr it would've been obvious to modify Parthasarathy's threshold using Rose, there was no such statement by Exr & thus no basis for Board's conclusion

Fed. Cir. Opinion

- PTO also rests arguments on Board's finding, quoting Exr, that using query length as threshold was "very well known in the art"
- Neither Board nor Exr cited any evidence suggesting this
- Instead Board only quoted Exr citing to Rose's discussion of its relevance-ranking algorithm
- PTO admits Rose doesn't disclose using query length as threshold & no record evidence supports finding that it was well known in art

Fed. Cir. Opinion

- PTO argues that “simple logic or common knowledge may fill these evidentiary gaps”
- Court: while common knowledge “can be invoked, even potentially to supply a limitation missing from the prior art, it must still be supported by evidence and a reasoned explanation” *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1363 (Fed. Cir. 2016)

Fed. Cir. Opinion

- In light of absence of any explanation how query length could be used as, or to modify, Parthasarathy's threshold, Board's unsupported assertion cannot provide substantial evidence supporting its decision
- Assumptions and common sense cannot substitute for evidence thereof

Fed. Cir. Opinion

- To extent Board found Rose's score could be substituted for Parthasarathy's threshold, this finding is not supported by substantial evidence
- Rose doesn't by itself disclose a predetermined threshold based on a number of words
- Rose teaches calculating result-dependent relevance scores which can ***necessarily only*** be implemented after query results are retrieved
- Unlike predetermined threshold, which applies to collection of results, Rose's relevance scores vary from result to result

Fed. Cir. Opinion

- Thus, simple substitution of Rose's score for Parthasarathy's user-selected threshold cannot provide the claimed predetermined threshold

Fed. Cir. Opinion

- While Google urges court to find PTO's arguments (which Board didn't invoke) lack merit, those arguments rest on factual predicates unaddressed by Exr or Board
- Thus, court won't address merits of PTO's arguments in 1st instance of appeal

Board's Decision **Vacated & Remanded**

Discussion

- For “obvious to try” rationale to work, shouldn’t the “identified, predictable solutions” solve the same problem disclosed by Rose?
- In this case,
  - Rose uses query length to solve “short query problem” where some results are incorrectly rated as more relevant than other results
  - However, modifying Parthasarathy’s threshold according to query length would ***not*** improve relevance ranking (given that relevance weights are determined ***before*** threshold is applied)
  - Google uses query length to solve a different type of problem – making a threshold correspond to user’s age

Discussion

- For some rejections, if Exr fails to provide good explanation as to how they should be combined (i.e., how the primary ref should be modified), do you try to “fill in the gaps” yourself and then advise the client to amend?
  - This case suggests that, if you have a hard time figuring it out, maybe you should force the Exr to further explain how exactly the ref(s) would be modified to come up with the claimed feature? Perhaps be willing to go to appeal?
  - If you can figure it out yourself, would it be more cost effective to amend

Discussion

- PTAB decision in Aug 2022, IPR2022-00624, was designated as precedential decision USPTO Director Kathi Vidal on Feb. 10th
- Decision held petitioner (Xerox Corp.) failed to show reasonable likelihood it would prevail in proving unpatentability of challenged claims
- Claimed mobile ticketing system for detecting fraudulent activity of tickets using data integrity
- Claimed feature: “store in a data record associated with the user account a data value indicating the fraudulent activity” (data value is also used to make the illegitimate ticket no longer available on device)

Discussion

- Prior art teaching: after fraudulent activity is detected, “the purchaser of the ticket could be blocked from further use of the system or pursued in respect of their potential fraud”
- Expert: “A POSITA would understand that such a blocking would require recording the blocking in a data record associated with the user’s account”
- Board held petitioner’s only evidence supporting arguments of obviousness was expert opinion that “merely repeats, verbatim the conclusory assertion for which it was offered to support”
- Expert didn’t cite to any add’l supporting evidence or provide technical reasoning, & failed to offer construction of key terms

Discussion

- Board: “This is particularly problematic in cases where, like here, expert testimony is offered not simply to provide a motivation to combine prior-art teachings, but rather to supply a limitation missing from the prior art”
- Is the PTAB cracking down on obviousness rejections lacking evidence and reasoned explanation, or is it a case of “rules for thee but not for me”?

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Thank you