IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

ACCUSEARCH TECHNOLOGIES LLC, Plaintiffs, v. GOOGLE LLC, Defendant.	C.A. No. 25-514 (GBW)

DEFENDANT'S INITIAL INVALIDITY CONTENTIONS

Defendant Google LLC ("Google" or "Defendant") submits these Initial Invalidity Contentions pursuant to the Scheduling Order [D.I. 34]. These disclosures, together with the accompanying claim charts, set forth Defendant's current Invalidity Contentions with respect to the claims identified by the Infringement Contentions served by Plaintiff AccuSearch Technologies LLC ("AccuSearch" or "Plaintiff") on December 17, 2025 (the "Infringement Contentions,"), for U.S. Patent Nos. 10,585,959 (the "'959 patent"); 10,867,001 (the "'001 patent"); 11,100,184 (the "'184 patent"); and 11,971,937 (the "'937 patent") (collectively, the "Asserted Patents"). At present, the Asserted Claims are as follows:

- '959 patent: 1-8, 10-25
- '001 patent: 1-3, 5-16, 18-26
- '184 patent: 1-22
- '937 patent: 1-39

I. PRELIMINARY STATEMENT AND RESERVATIONS OF RIGHTS

As set forth below, each Asserted Claim is invalid pursuant to 35 U.S.C. §§ 101, 102, 103, and/or 112. Defendant reserves the right to further amend and/or supplement these Initial Invalidity Contentions based on information learned through further discovery or investigation.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

Defendant further reserves the right to amend these Initial Invalidity Contentions should Plaintiff provide additional information, amend or supplement its Infringement Contentions in any way, or otherwise change, supplement or clarify its infringement allegations.

The following disclosures, including the accompanying claim charts, were prepared prior to the Court's ruling on claim construction and prior to claim-construction disclosures by the parties. Defendant reserves the right to amend, supplement, or provide further invalidity contentions following the Court's Markman ruling, including providing final invalidity contentions according to the Scheduling Order [D.I. 34].

The Court has not provided its claim-construction rulings. Until it does so, Defendant's Initial Invalidity Contentions are based on the claim constructions apparently underlying Plaintiff's Infringement Contentions, to the extent that those Contentions are comprehensible and Plaintiff's constructions are discernible. These Initial Invalidity Contentions are not intended to, and may not, reflect Defendant's positions as to the proper construction of the Asserted Claims. To the extent that these Initial Invalidity Contentions reflect an interpretation consistent with any construction adopted by Plaintiff, no inference is intended, and none should be drawn, that Defendant agrees with Plaintiff's claim constructions, and Defendant expressly reserves its right to contest such constructions. Further, no inference is intended, and none should be drawn, that any Asserted Claim satisfies 35 U.S.C. § 112; and in fact the Asserted Claims do not for the reasons set forth below.

Prior art not included in these contentions, whether or not now known to Defendant, may become relevant, or its significance may change, depending on the claim-construction positions that the parties assert and/or that the Court adopts, or on Plaintiff's theories of infringement, which are still largely inscrutable due to the deficiencies in Plaintiff's infringement contentions.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

Defendant's ongoing investigations may also uncover additional prior art, including through responses to third-party subpoenas and depositions. For example, for any given prior art system, Defendant expects that additional documentation and other evidence relating to these systems will be discovered, and Defendant reserves the right to rely on such evidence to demonstrate the invalidity of the Asserted Claims. Defendant accordingly reserves the right to modify these Initial Invalidity Contentions, including without limitation by adding or withdrawing prior art and/or modifying any of the referenced claim charts in light of new developments or analysis, including without limitation claim-construction proceedings, any amended or supplemental infringement contentions by Plaintiff, any party admissions or other admissions concerning the scope of the claims or teachings of the prior art, or any positions taken by Plaintiff in this or related litigation, patent office review, or other proceeding, or to avoid unfair prejudice from Plaintiff's failure to timely comply with its disclosure obligations.

The identity of each item of prior art relied upon in these contentions is listed below and in the attached Claim Charts, which are incorporated herein by reference. These Initial Invalidity Contentions provide exemplary citations showing where the cited references disclose and render obvious each element of the Asserted Claims. All of the references cited and discussed herein may also be relied upon to show the state of the art in the relevant time frames. Defendant expressly reserves the right to rely on uncited portions of the prior art references, other documents, and expert testimony to provide context and/or to aid in understanding the cited portions of the references and to establish the invalidity of the Asserted Claims. Where a reference contains multiple disclosures of a given element, Defendant has generally cited only a subset of those disclosures, and Defendant reserves the right to rely on others. Similarly, where Defendant cites a particular figure in a reference, the citation should be understood to encompass

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

the caption and description of the figure and any text relating to or discussing the figure. Conversely, where Defendant cites text referring to or relating to a figure, the citation should be understood to include the figure as well, and all other text referring or relating to that figure.

For purposes of these Initial Invalidity Contentions only, Defendant has applied the purported earliest priority date as reflected on the face of the Asserted Patents. But the burden is on Plaintiff to demonstrate it is entitled to its asserted priority date, and it has not met its burden. Defendant's analysis and review is thus ongoing, and Defendant reserves the right to challenge the asserted priority dates and rely upon any intervening prior art in the event of a successful challenge. Moreover, to date, Defendant has not deposed the named inventor of the patents, Plaintiff has failed to produce all documents evidencing conception and reduction to practice (and requisite diligence) of the claimed inventions of the Asserted Patents, and Plaintiff has not substantiated any priority date earlier than the earliest filing date reflected on the face of the Asserted Patents, either based on conception and reduction to practice documents, or otherwise. In the event that the Asserted Patents are found to be entitled to an earlier date of invention than the purported filing date of the Asserted Patents, Defendant reserves the right to supplement its invalidity contentions with additional prior art on this basis.

II. IDENTIFICATION OF PRIOR ART

Defendant identifies below each item of prior art that invalidates each Asserted Claim of the Asserted Patents. All of the prior art cited and discussed below and in the attached charts anticipates and/or renders obvious, alone or in combination with the below-disclosed references, one or more of the Asserted Claims of the Asserted Patents. Defendant sets forth the below examples of anticipation and obviousness based on the cited art. Defendant expressly reserves the right to supplement and/or amend these contentions as noted above.

Defendant also attaches exemplary limitation-by-limitation claim charts demonstrating

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

where specifically each limitation of the Asserted Claims of the Asserted Patents is found. These claim charts are based on Defendant's current understanding of the terms and limitations of the Asserted Claims, and its current understanding of the claim constructions apparently underlying Plaintiff's Infringement Contentions. To the extent any limitation is deemed not to be met explicitly or inherently by an item of prior art, Defendant contends that the difference would have been obvious to a person of ordinary skill in the art and within the knowledge of one skilled in the art at the time of the alleged invention, so that the claimed invention would have been obvious both in light of the single reference alone and/or in light of combined references.

As a general matter, all portions of each prior art item disclosed for each Asserted Patent are relied upon to support the disclosure of each Asserted Claim limitation, as all portions provide general support. Supporting citations are nevertheless provided but do not necessarily represent every location where a particular claim term may be found in the prior art item. For system prior art, Defendant may rely on the personal knowledge, experience, and testimony of any relevant witnesses including its technical experts, as evidence of the operation of the prior art system and how the system meets each Asserted Claim limitation. Where elements are disclosed at multiple locations within a single item of prior art, Defendant has not necessarily identified each iteration of every disclosure. Defendant therefore reserves the right to rely on additional, or different, portions of the prior art items other than those specifically cited in the claim charts provided herewith. Defendant reserves the right to supplement and/or amend these contentions based on the herein-identified prior art considered individually or in combination with additional information learned during discovery and/or in light of the Court's claim-construction rulings. In addition, Defendant may become aware of additional references as discovery progresses, and Defendant reserves the right to use such references to demonstrate that the Asserted Claims of

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

the Asserted Patents are invalid as anticipated or obvious.

Furthermore, Defendant identifies each of the prior art items disclosed and/or cited in the attached exhibits and attachments, including the limitation-by-limitation claim charts attached hereto and all arguments and grounds presented in any petitions for *inter partes* review ("IPRs") or *ex parte* reexams ("EPRs") concerning any of the Asserted Patents are incorporated by reference herein, for each Asserted Patent.

Issued Patents and Published Patent Applications
U.S. Patent No. 5,826,260 ("Byrd")
U.S. Patent No. 6,405,192 ("Brown")
U.S. Patent No. 6,810,402 ("Bates")
U.S. Patent No. 7,836,039 ("Clark")
U.S. Patent No. 7,933,338 ("Choudhry")
U.S. Patent No. 8,880,547 ("Mills")
U.S. Patent No. 9,098,569 ("Bhagat")
U.S. Patent App. Pub. No. 2002/0174118 ("Bates Publication")
U.S. Patent App. Pub. No. 2006/0236216 ("Blackwell")
U.S. Patent App. Pub. No. 2008/0071739 ("Kumar")
U.S. Patent App. Pub. No. 2008/0133460 ("Clark Publication")
U.S. Patent App. Pub. No. 2006/0059126 ("Naick")
U.S. Patent App. Pub. No. 2009/0248511 ("Mehta")
U.S. Patent App. Pub. No. 2007/0168344 ("Brinson")
U.S. Patent App. Pub. No. 2010/0145923 ("Wang")

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

Other Publications
Byrd, "A Scrollbar-Based Visualization for Document Navigation," *Proceedings of the Fourth ACM Conference on Digital libraries* (1999).
Hock, *The Extreme Searcher's Guide to Web Search Engines* (2d ed., 2001).
Hoeber et al., "The Visual Exploration of Web Search Results Using HotMap," *Tenth International Conference on Information Visualization (IV'06)*, London, UK (July 5-7, 2006).
Hoeber, "Lightweight Additions to the Web Search Interface Supporting Exploratory Web Search," *Second Workshop on Human-Computer Interaction and Information Retrieval (HCIR 2008)*, Redmond, Wash. (Oct. 23, 2008). ("Lightweight Additions")
Hoeber et al., "TheHotMap.com: Enabling Flexible Interactions in Next-Generation Web Search Interfaces," *2008 IEEE/WIC/ACM International Conference on Web Intelligence and Artificial Agent Technology*, Sydney, Australia (Dec. 9-12, 2008).
Hoeber et al., "A Unified Interface for Visual and Interactive Web Search," *Communications, Internet, and Information Technology*, 2007.
Hearst, *Search User Interfaces*, Cambridge Univ. Press (2009). ("SUI")
Hearst, "Chapter 2: User Interfaces for Search," *in* Baez-Yates et al., *Modern Information Retrieval: The Concepts and Technology Behind Search Engines* (2d ed., 2010). ("UI for Search")
Hearst, Research: TileBars (1997). ("Hearst 1997")
Hearst, "TileBars: Visualization of Term Distribution Information in Full Text Information Access," *CHI '95: Proceedings of the SIGCHI Conference on Human Factors in Computer Systems*, Denver, Colo. (May 1995). ("Hearst 1995")
Heimonen & Jhaveri, "Visualizing Query Occurrence in Search Result Lists," *Ninth International Conference on Information Visualisation (IV'05)* (London, UK, 2005) ("Heimonen"), pp. 877-882.
"INSYDER - An Information Assistant for Business Intelligence," *Proceedings of the 23rd Annual International ACM SIGIR Conference on Research and Development in Information Retrieval*, Athens, Greece (July 24-28, 2000).
Keen, "How does Dialog's TARGET Work?" *Online & CDROM Review* (Vol. 18, No. 5, Oct. 1994). ("Keen")

Other Publications
Marti A. Hearst & Jan O. Pedersen, "Visualizing Information Retrieval Results: A Demonstration of the TileBar Interface," *CHI '96: Proceedings of the SIGCHI Conference on Human Factors in Computer Systems*, Vancouver, Canada (April 13-18, 1996). ("Hearst 1996")
Marti A. Hearst & Jan O. Pedersen, Video Demonstration of TileBars Interface, *CHI '96: Proceedings of the SIGCHI Conference on Human Factors in Computer Systems*, Vancouver, Canada (April 13-18, 1996). ("TileBars Demonstration")
Marti A. Hearst & Jan O. Pedersen, "Revealing Collection Structure through Information Access Interfaces," *Proceedings of the 1995 International Joint Conference on AI*, Montreal, Canada (Aug. 20-25, 1995).
Meredith & Pieper, "BETA: Better Extraction Through Aggregation," *Proceedings of the 29th Annual International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR'06) Workshop on Faceted Search*, Seattle, Wash., August 2006.
Mussler, "INSYDER - Information Retrieval Aspects of a Business Intelligence System," *Proceedings des 7. Internationalen Symposiums für Informationswissenschaft (ISI 2000)*, Darmstadt, Germany (Nov. 8-10, 2000).
Nicholson, "Indexing and Abstracting on the World Wide Web: An Examination of Six Web Databases," Syracuse Univ. (1997).
Nudelman, *Designing Search: UX Strategies for eCommerce Success* (Wiley, May 2011).
Ogden et al., "Document Thumbnail Visualizations for Rapid Relevance Judgments: When Do They Pay Off?" *Proceedings of the 7th Text Retrieval Conference (TREC-7)* (1998), pp. 528-534.
Reiterer, "INSYDER: A Content-Based Visual-Information-Seeking System for the Web," *Int'l J. on Digital Libraries* (2005), pp. 25-41.
Shneiderman & Plaisant, *Designing the User Interface* (4th ed. 2005).
Veerasamy, "Evaluation of a tool for visualization of information retrieval results," *Proceedings of the 19th Int'l Conf. on Research Development in Information Retrieval (SIGIR'96)* (Zurich, Switzerland Aug. 18-22, 1996), pp. 85-92.
Systems
Amazon.com

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

Systems
BETA
Exalead Cloudview
Infovell search engine
Northern Lights
TARGET
TheHotMap.com
TileBars/Pagis Pro97
Vivisimo
Yolink
WInquery / CIIR/UMass “INQUERY” retrieval engine

III. ANTICIPATION AND OBVIOUSNESS

The Exhibits identified below in connection with each of the Asserted Patents provide a series of charts for each respective reference. Each chart identifies specific examples of where each limitation of the Asserted Claims is found in the corresponding reference.

Defendant may rely on uncited portions of the prior art references and/or other publications and/or expert testimony to provide context and/or as aids to understanding and interpreting the portions that are cited. Defendant may also rely on the personal knowledge, experience, and testimony of any relevant witnesses, including its technical experts, as evidence that the cited references meet the Asserted Claim limitations. Where Defendant references a particular figure in a prior art reference, the citation should be understood to encompass the caption and description of the figure and any text relating to the figure, in addition to the figure itself. Conversely, where a cited portion of text refers or relates to a figure, the citation should be understood to include the figure as well, together with any other text that refers or relates to the

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

figure. Defendant may additionally rely on prior art material incorporated by reference in the identified references to provide additional support for a particular claim element.

Defendant contends that each Asserted Claim of the Patents-in-Suit is invalid under 35 U.S.C. § 102 and/or § 103. Each prior art reference identified in these Initial Invalidity Contentions renders the Asserted Claims obvious, either (i) alone, (ii) in view of the knowledge, skill, and experience of a person of ordinary skill in the art at the time of the alleged invention, and/or (iii) in combination with other prior art references identified herein.

To the extent a particular reference does not expressly or inherently disclose a claim element, Defendant contends that such element was within the general knowledge of a person of ordinary skill in the art at the relevant time and would have been obvious to implement in view of the teachings of the reference. Defendant further relies on the rationales set forth in *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), including predictable use of prior art elements according to their established functions, substitution of known elements, application of known techniques to improve similar devices, and other combinations yielding predictable results.

With regard to the motivation to combine cited references under 35 U.S.C. § 103, as the United States Supreme Court held in *KSR Int'l*, "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." 550 U.S. at 416. The Supreme Court further held that, "[w]hen a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

application is beyond his or her skill." *Id.* at 417.

Moreover, the Supreme Court held that "in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 420. Indeed, the Supreme Court held that it is sufficient that a combination of elements was "obvious to try" holding that, "[w]hen 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 pursue 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 common sense." *Id.* at 421. "In that instance the fact that a combination was obvious to try might show that it was obvious under § 103." *Id.* "Rigid preventative rules that deny factfinders recourse to common sense, however, are neither necessary under our case law nor consistent with it." *Id.*

Finally, the Supreme Court recognized that "[g]ranting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility." *Id.* at 419.

For the Asserted Patents, each of the prior art items disclosed in these Initial Invalidity Contentions is directed to the same or similar fields of endeavor. Accordingly, one of ordinary skill in the art would have recognized that the results of the combinations were predictable and would have been clearly motivated to modify and combine any of the prior art items identified below and in the attached charts for each Asserted Patent to arrive at the alleged inventions concerning each said Asserted Patent. Further, Plaintiff has not identified, and could not identify, any unexpected results that ensued from combining familiar elements according to known techniques.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

Accordingly, at least the following rationales support a finding of obviousness based on those combinations as well as those additional combinations set forth in detail below:

(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 would have been predictable to one of ordinary skill in the art; and

(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.

Thus, Defendant contends that the Asserted Claims are further invalid as obvious under 35 U.S.C. § 103 in view of at least the prior art listed below and discussed in the identified Exhibits. Defendant sets forth below specific exemplary combinations based on Defendant's present understanding of the Asserted Claims and the apparent constructions that Defendant believes Plaintiff may be asserting based on its Infringement Contentions. However, each reference cited herein can and would be combined with any of the other cited references to invalidate the Asserted Claims. Accordingly, if any reference is asserted or found not to disclose a particular element, Defendant reserves the right to identify and rely on other combinations of references that do disclose the purportedly missing element.

Similarly, to the extent that any reference that is identified as anticipatory is argued or

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

found not to anticipate one or more Asserted Claims, then references described herein that disclose the purportedly missing element, and/or the knowledge and skill of a person of ordinary skill in the art at the time of the invention that does so, can and would be combined with that reference to render the claim invalid as obvious. Further, where Defendant contends that references, in various combinations, render the Asserted Claims obvious under 35 U.S.C. § 103, this is not a suggestion or admission that each such reference does not independently anticipate a particular claim under 35 U.S.C. § 102 or render it obvious as a single reference under 35 U.S.C. § 103.

As detailed further below and in the attached charts, the prior art identified herein anticipates and/or renders obvious the Asserted Claims of the Asserted Patents. Further analysis of the following prior art is provided in the attached exemplary claim charts.

Prior Art References and Exemplary Combinations[1]			
Reference Name	**Reference**	**Claim Chart(s)**	**Exemplary Obviousness Combinations**
Amazon.com	System	Exhibits 001-01, 184-01, 937-01, and 959-01	Obviousness combinations with one or more of at least the following: Bates, Brinson, Byrd, Bhagat, Clark, Kumar, Mehta, Mills, Naick, Beta, HotMap, TileBars, Wang and/or the background knowledge of a person of ordinary skill in the art

[1] To the extent Plaintiff argues or contends that any reference does not expressly or inherently disclose any element or limitation of an Asserted Claim, Defendant contends that such element or limitation would nonetheless have been obvious to a POSITA, at least in view of the other disclosures in the prior art identified by Defendant and of the POSITA's knowledge, skill, and experience. Defendant further contends that the claim in question is rendered obvious by each reference in view of that knowledge, skill, and experience, and also in view of the other prior art references identified herein that disclose the allegedly missing element or limitation.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

Prior Art References and Exemplary Combinations[1]			
Reference Name	**Reference**	**Claim Chart(s)**	**Exemplary Obviousness Combinations**
			(*see, e.g.*, Section IV, *infra*).
Bates	U.S. Pat. App. Pub. No. 2002/0174118	Exhibits 001-02, 184-02, 937-02, and 959-02	Obviousness combinations with one or more of at least the following: Brinson, Byrd, Bhagat, Clark, Kumar, Mehta, Mills, Naick, Amazon.com, Beta, HotMap, TileBars, Wang and/or the background knowledge of a person of ordinary skill in the art (*see, e.g.*, Section IV, *infra*).
BETA	System	Exhibits 001-03, 184-03, 937-03, and 959-03	Obviousness combinations with one or more of at least the following: Bates, Brinson, Byrd, Bhagat, Clark, Kumar, Mehta, Mills, Naick, Amazon.com, HotMap, TileBars, Wang and/or the background knowledge of a person of ordinary skill in the art (*see, e.g.*, Section IV, *infra*).
Bhagat	U.S. Pat. No. 9,098,569	Exhibits 001-04, 184-04, 937-04, and 959-04	Obviousness combinations with one or more of at least the following: Bates, Brinson, Byrd, Clark, Kumar, Mehta, Mills, Naick, Amazon.com, Beta, HotMap, TileBars, Wang and/or the background knowledge of a person of ordinary skill in the art (*see, e.g.*, Section IV, *infra*).

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

Prior Art References and Exemplary Combinations[1]			
Reference Name	**Reference**	**Claim Chart(s)**	**Exemplary Obviousness Combinations**
Brinson	U.S. Pat. App. Pub. No. 2007/0168344	Exhibits 001-05, 184-05, 937-05, and 959-05	Obviousness combinations with one or more of at least the following: Bates, Byrd, Bhagat, Clark, Kumar, Mehta, Mills, Naick, Amazon.com, Beta, HotMap, TileBars, Wang and/or the background knowledge of a person of ordinary skill in the art (*see, e.g.*, Section IV, *infra*).
Byrd	U.S. Pat. No. 5,826,260	Exhibits 001-06, 184-06, 937-06, and 959-06	Obviousness combinations with one or more of at least the following: Bates, Brinson, Bhagat, Clark, Kumar, Mehta, Mills, Naick, Amazon.com, Beta, HotMap, TileBars, Wang and/or the background knowledge of a person of ordinary skill in the art (*see, e.g.*, Section IV, *infra*).
Clark	U.S. Pat. App. Pub. No. 2008/0133460	Exhibits 001-07, 184-07, 937-07, and 959-07	Obviousness combinations with one or more of at least the following: Bates, Brinson, Byrd, Bhagat, Kumar, Mehta, Mills, Naick, Amazon.com, Beta, HotMap, TileBars, Wang and/or the background knowledge of a person of ordinary skill in the art (*see, e.g.*, Section IV, *infra*).
HotMap	System	Exhibits 001-08, 184-08, 937-08, and 959-08	Obviousness combinations with one or more of at least the following: Bates, Brinson, Byrd, Bhagat, Clark, Kumar, Mehta, Mills, Naick, Amazon.com, Beta, TileBars, Wang and/or the background knowledge of a

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

Prior Art References and Exemplary Combinations[1]			
Reference Name	**Reference**	**Claim Chart(s)**	**Exemplary Obviousness Combinations**
			person of ordinary skill in the art (*see, e.g.*, Section IV, *infra*).
Kumar	U.S. Pat. App. Pub. No. 2008/0071739	Exhibits 001-09, 184-09, 937-09, and 959-09	Obviousness combinations with one or more of at least the following: Bates, Brinson, Byrd, Bhagat, Clark, Mehta, Mills, Naick, Amazon.com, Beta, HotMap, TileBars, Wang and/or the background knowledge of a person of ordinary skill in the art (*see, e.g.*, Section IV, *infra*).
Mehta	U.S. Pat. App. Pub. No. 2009/0248511	Exhibits 001-10, 184-10, 937-10, and 959-10	Obviousness combinations with one or more of at least the following: Bates, Brinson, Byrd, Bhagat, Clark, Kumar, Mills, Naick, Amazon.com, Beta, HotMap, TileBars, Wang and/or the background knowledge of a person of ordinary skill in the art (*see, e.g.*, Section IV, *infra*).
Mills	U.S. Pat. No. 8,880,547	Exhibits 001-11, 184-11, 937-11, and 959-11	Obviousness combinations with one or more of at least the following: Bates, Brinson, Byrd, Bhagat, Clark, Kumar, Mehta, Naick, Amazon.com, Beta, HotMap, TileBars, Wang and/or the background knowledge of a person of ordinary skill in the art (*see, e.g.*, Section IV, *infra*).

Prior Art References and Exemplary Combinations[1]			
Reference Name	**Reference**	**Claim Chart(s)**	**Exemplary Obviousness Combinations**
Naick	U.S. Pat. App. Pub. No. 2006/0059126	Exhibits 001-12, 184-12, 937-12, and 959-12	Obviousness combinations with one or more of at least the following: Bates, Brinson, Byrd, Bhagat, Clark, Kumar, Mehta, Mills, Amazon.com, Beta, HotMap, TileBars, Wang and/or the background knowledge of a person of ordinary skill in the art (*see, e.g.*, Section IV, *infra*).
TileBars	System	Exhibits 001-13, 184-13, 937-13, and 959-13	Obviousness combinations with one or more of at least the following: Bates, Brinson, Byrd, Bhagat, Clark, Kumar, Mehta, Mills, Naick, Amazon.com, Beta, HotMap, Wang and/or the background knowledge of a person of ordinary skill in the art (*see, e.g.*, Section IV, *infra*).
Wang	U.S. Pat. Pub. No. 2010/0145923	Exhibits 001-14, 184-14, 937-14, and 959-14	Obviousness combinations with one or more of at least the following: Bates, Brinson, Byrd, Bhagat, Clark, Kumar, Mehta, Mills, Naick, Amazon.com, Beta, HotMap, TileBars and/or the background knowledge of a person of ordinary skill in the art (*see, e.g.*, Section IV, *infra*).

A. Exemplary Rationales for Obviousness

A person of ordinary skill in the art, at the time of the alleged inventions of the Asserted Claims, would have been motivated to combine the teachings of the above-listed references,

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

along with the background knowledge of a person of ordinary skill in the art (*see, e.g.*, Section IV, *infra*) for any number of reasons.

For example, these references relate to the same field of endeavor: techniques for presenting search results to the user of a data retrieval system. Whether consisting of a document retrieval system (e.g., Byrd, TileBars) or an Internet search engine (e.g., Bates, Brinson, Bhagat, Clark, Mills, Naick, Amazon.com, Beta, HotMap, and Wang), each of these references is directed to an improvement in facilitating a user's identification of relevant information in an electronic records system. A person of ordinary skill in the art would therefore have understood that the solutions described in each of these references would have been further enhanced and augmented by other references, which are directed to the same or similar problems. For example, a person of ordinary skill in the art would have recognized that the teachings relating to document retrieval systems, such as TileBars and Byrd, would be equally applicable in the context of Internet search engines, which are themselves a type of document retrieval system.

A person of ordinary skill in the art would further have been motivated to combine the teachings of these references because the prior art references themselves expressly teach the combination. For example, the BETA system, through its integration with TileBars, (and related Meredith paper) describes a means of annotating a conventional search result grouping (as disclosed in, for example, Bates, HotMap, or Wang) with information about search term frequency and distribution. *See* Meredith at 2 (citing Hearst, "TileBars: Visualization of Term Distribution Information in Full Text Information Access," *Proceedings of the Conference on Human Factors in Computing Systems, CHI'95*, 1995); *see also* Hearst, *Search User Interfaces* (2009) at 11.1. HotMap itself is a variation of TileBars that is brought into the interface of an Internet search engine. Hearst, *Search User Interfaces* (2009) at 10.7.1 ("A simplified version of

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

TileBars called HotMap . . . ."). Hearst's *Search User Interfaces* (2009) discusses BETA, TileBars, HotMaps, and numerous other search annotation systems discussed in Section IV, *infra*, and would further have provided the necessary motivation for a person of ordinary skill in the art to combine the various types of search term annotations known in the prior art with Internet search engine results pages. Each of these references relates to the same problem of identifying relevant results to a user query through the use of annotations, and a person of ordinary skill in the art would thus have been motivated to combine their teachings on that basis.

In addition, a person of ordinary skill in the art would have been motivated to combine these references according to known methods to yield predictable results. For example, references including, for example, Bates, Wang, and HotMap, describe conventional Internet search engine functionality, including the presentation of search results in groups. Other references, including, for example, Clark, Kumar, and Naick, teach techniques in the art for searching descendant webpages linked from a root webpage for search terms. Yet other references, including, for example, Brinson and Byrd, describe techniques for filtering search results. Mehta teaches techniques for presenting advertising related to user keywords. Combining any of the filtering, descendant webpage, and/or advertising references (including those references identified in Section IV, *infra*) with any of the conventional Internet search engine references would have represented the application of a known technique (e.g., filtering of search data based on a criteria, searching a second level of webpages based on the same set of search terms, or presenting advertising based on search terms) to a known device (e.g., a search engine providing a search results page to a user) yielding predictable results, i.e., a search engine results page that displays results including both root-level and descendant webpages that hit on search terms, a search engine results page that provides a means for filtering results based on a criteria,

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

such as a required keyword, and/or a search engine results page that displays ads alongside search results.

A person of ordinary skill in the art would further have been motivated to combine references because doing so would require the simple substitution of one known element for another to obtain predictable results. For example, the above references disclose a variety of techniques for indicating the absence of a search term in an annotation accompanying a search result. HotMaps and TileBars, for example, use a color-based system that associates each user search term with a visual indicator for indicating the absence of a term in the search result, with white indicating a missing term. Bhagat, Mills, and Amazon.com teach that missing search terms can be indicated on a search results page using a text with a strikethrough stylization (e.g., "~~term~~"). A person of ordinary skill in the art would recognize that while HotMaps/TileBars and Bhagat/Mills/Amazon.com use different visualization techniques for identifying a missing term in a search results grouping, the purpose is the same in all cases—i.e., to quickly indicate to the user that a search term is missing in the given result. Because these annotations serve the same or a similar purpose, it would have been obvious to a person of ordinary skill in the art that one technique could substitute for another in search results systems with predictable results (e.g., HotMaps' missing term annotation could appear as stricken text, rather than a white square).

In addition to the exemplary motivations for combining references discussed above, the Asserted Claims would further have been obvious to a person of ordinary skill in the art based on additional rationale supporting a finding of obviousness, as outlined in *KSR Int'l*. For example, numerous Asserted Claims recite limitations directed to the positioning of user interface elements relative to each other on the claimed search results webpage. *See, e.g.*, '001 Patent, Claim 1 ("causing the annotation to be displayed adjacent to or within the Internet search result's

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

search result grouping"); '937 Patent, Claim 14 ("the selectable advertisement and the first or second search result grouping are adjacent to each other"); '184 Patent, Claim 2 ("wherein the annotation is displayed as one or more standalone lines in the second search result grouping; and wherein the annotation is displayed at the bottom of the second search result grouping"). Each of these limitations is directed to a UI design choice with a finite number of predictable solutions; to the extent not expressly disclosed by prior art, these elements nonetheless would have been obvious for a person of ordinary skill in the art to try with a reasonable expectation of success.

As an additional example, a number of Asserted Claims recite limitations wherein, when viewing search results on a device with a smaller screen, user selection of a filtering option causes more non-filtered results to become visible on the screen, thus allowing the user to view those results without scrolling. *See, e.g.*, '937 Patent, Claims 6, 8, 10, 20, 22, 24, 34, 36; '184 Patent, Claims 4, 9, 14, 22. These limitations, however, merely recite a known technique (e.g., filtering search results) on a known device (e.g., a device with a small screen, such as a smartphone) in a way that yields predictable results (e.g., the device screen has more room to display non-filtered results, thus obviating the need to scroll).

IV. BACKGROUND KNOWLEDGE OF A PERSON OF ORDINARY SKILL IN THE ART

As discussed below, each of the elements or features of the Asserted Claims was well known to those of ordinary skill in the art before the alleged invention of the Asserted Patents and were all part of the background knowledge of an ordinary skilled artisan, even aside from any particular disclosures found in prior art references. The "inventions" recited in the Asserted Claims are, at the very most, only combinations of these well-known elements according to known methods to yield predictable results. Accordingly, a person of ordinary skill in the art would have been able and motivated to combine these already well-known elements in the

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

manner claimed. In other words, any of the systems or methods disclosed in the prior art references identified by Defendant could have been easily adapted by an ordinary skilled artisan to yield the invention(s) of the Asserted Claims, and an ordinary skilled artisan would have found it obvious to do so, simply by incorporating features or elements of which they were already well aware from background knowledge in the art or as disclosed in Defendant's prior art.

Non-exhaustive examples of the elements and features that were well known to those of ordinary skill in the art are given below. The discussion below is also incorporated by reference into the attached claim charts with respect to each and every element of the Asserted Claims that the discussion relates to. Each of the prior art references discussed herein or cited elsewhere in Defendant's Initial Invalidity Contentions could be combined, and would have been obvious to combine, with any of the others and/or with the background knowledge discussed below, and a POSITA would have been motivated to make such combinations for the reasons stated herein, including that doing so would involve nothing more than elements according to known methods to yield predictable results, simple substitution of one known element for another to obtain predictable results, use of a known technique to improve similar methods or product in the same way, applying a known technique to a known method or product ready for improvement to yield predictable results, and/or would have been obvious to try due to the finite number of predictable solutions.

A. Generic Web Search Functionality

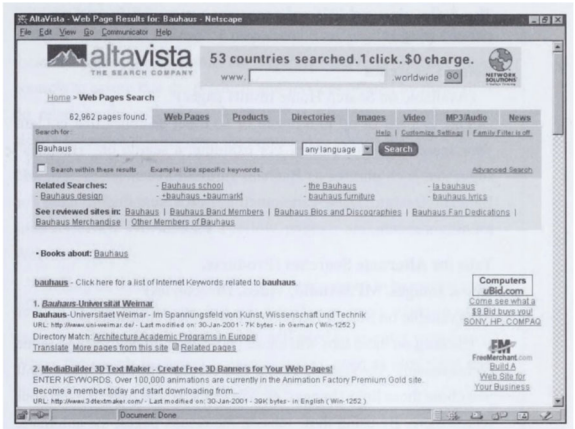
The Asserted Claims predominantly recite generic web search functionality that was in no way novel by June 2011. To the contrary, these limitations—related to generic client-server architecture, receiving a search request comprising one or more search terms from a computing device, performing a web search based on the search request, transmitting search results to the

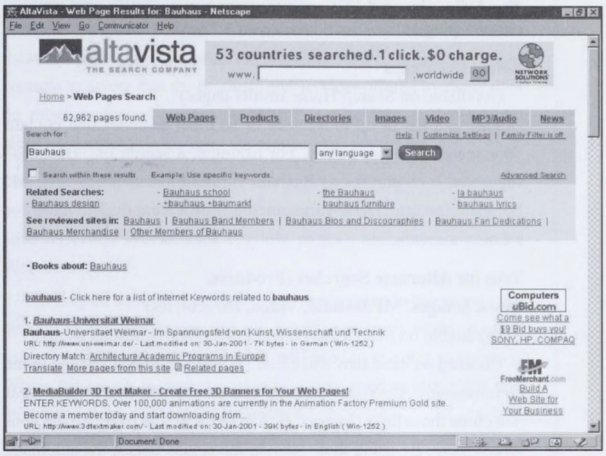
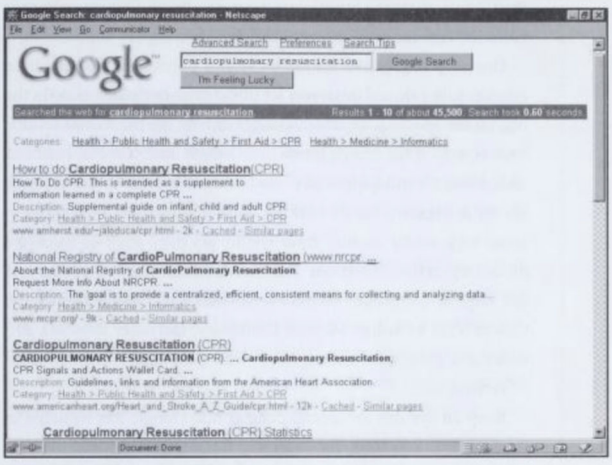
AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

computing device, and displaying search results in a grouping on a webpage on the computing device—were conventional and had been in widespread use by commercial search engines such as Google, Yahoo!, Alta Vista, Excite, HotBot, Lycos, and others for more than a decade prior to the earliest filing date of the Patents-in-Suit. Each of these prior art systems would have been well-known to persons of ordinary skill in the art, and indeed the public writ large, by June 2011, as would their underlying functionality and method of operation.

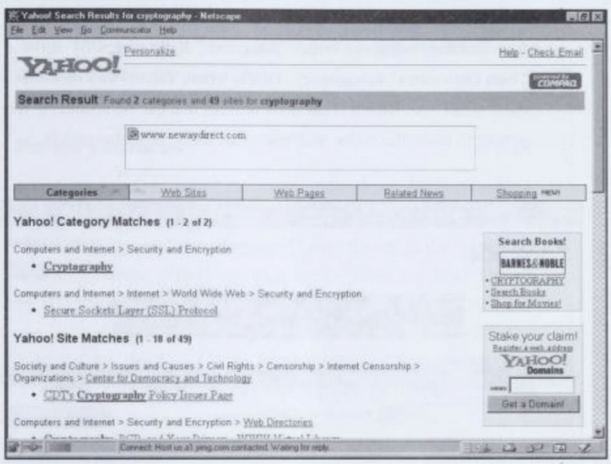
For example, Randolph Hock's 2001 book, *The Extreme Searcher's Guide to Web Search Engines* (2d ed.) ("Hock") describes the state of the art with regard to web search engines long before filing of the Patents-in-Suit and would have been within the knowledge of a person of ordinary skill in the art. The table below demonstrates how most of the independent Asserted Claim limitations consist of perfunctory web search functionality that was well-known and understood in the art, even a decade before these patents were filed.

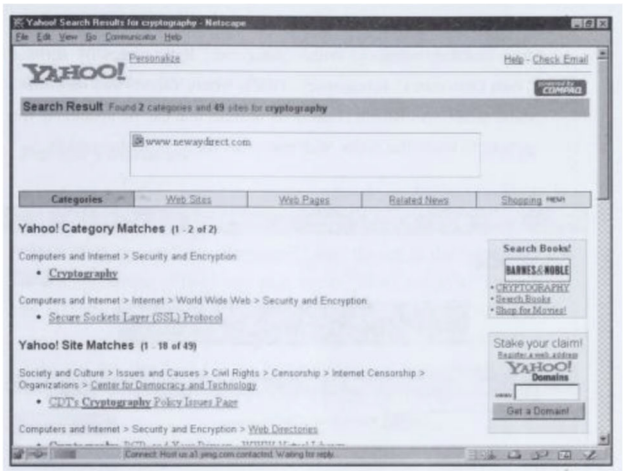
Exemplary Limitations: '959 Patent, Claim 11	**Hock, *The Extreme Searcher's Guide to Web Search Engines* (2d ed., 2001) ("Hock")**
receiving a search request provided by the user from the computing device, the search request comprising one or more search term elements	"What users see when they connect with a search engine is the HTML-based *interface*. This interface gathers query data from the user, and sends that data to the search engine for it to do the retrieval. Its most obvious function is to provide a means for the user to specify the query." (Hock at 10.) "**Query Box(es)** These boxes are the heart of it all since it is here where you enter your query. Exactly what you can enter (phrases, Boolean logic, etc.) depends on the search engine. (Boolean logic, discussed in the next chapter, is in this context the capability of using 'operators' such as +, -, AND, OR, and NOT to retrieve only those records that have a particular combination of terms.)" (Hock at 17.)
causing an Internet search to be performed based at least in part on the	"**The Retrieval Engine** This is the program that receives your query and

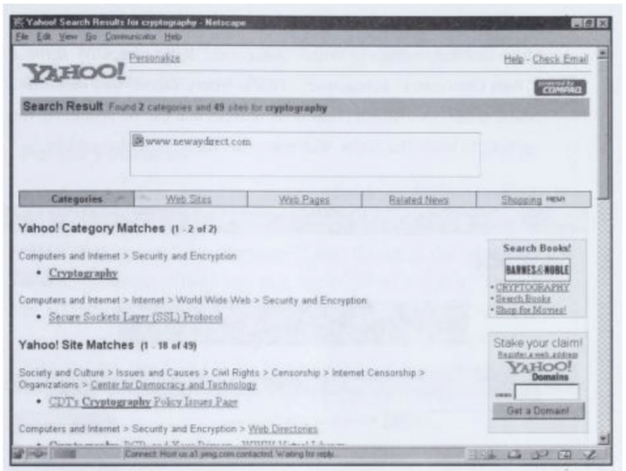
Exemplary Limitations: '959 Patent, Claim 11	**Hock, *The Extreme Searcher's Guide to Web Search Engines* (2d ed., 2001) ("Hock")**
search request in response to the user's provision of the search request; transmitting to the computing device, via an Internet, information comprising at least one automatically annotated Internet search result;	then searches the index to identify and deliver the records that match your query. In effect, two major things happen as part of this process: (1) the retrieval engine identifies the matching records by means of a 'retrieval algorithm,' and (2) the engine then arranges the retrieved items in a particular order to be displayed to the user." (Hock at 9.)  *Figure 3.5 AltaVista's results page (Search Home mode)*
wherein the transmitted information is suitable for display on a search results webpage on the computing device;	"The engines typically display 10 records per page as the default, while some engines give you options for larger increments—in some cases up to 100 per page." (Hock at 50.) "**browser**. Software that enables display of Web pages by interpreting HTML code, translating it, and performing related tasks." (Hock at 218.)
wherein the automatically annotated Internet search result is provided for display on the search results webpage as a search result grouping referencing a webpage associated with the automatically annotated Internet search result;	"The engines typically display 10 records per page as the default, while some engines give you options for larger increments—in some cases up to 100 per page." (Hock at 50.)

Exemplary Limitations: '959 Patent, Claim 11	Hock, *The Extreme Searcher's Guide to Web Search Engines* (2d ed., 2001) ("Hock")
	 *Figure 3.5 AltaVista's results page (Search Home mode)* "Northern Light offers one output format and displays 10 results per page. Results are 'grouped' and only the first record from each site . . . will be shown." (Hock at 163.) "The text shown in the record just after the title is, unlike with most other search engines, not an 'abstract' or description taken from the metatags or first part of the page. Instead you're shown the text surrounding the word(s) that caused the record to be retrieved. To make for easy browsing, Google conveniently highlights the retrieving word(s) by putting them in bold." (Hock at 119.)  *Figure 6.3 Google's results page*

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

Exemplary Limitations: '959 Patent, Claim 11	**Hock, *The Extreme Searcher's Guide to Web Search Engines* (2d ed., 2001) ("Hock")**
wherein the search result grouping comprises an annotation and at least one of: a title, an Internet link, an excerpt, or a URL;	"Some engines provide alternate format options that may include a short one with just URL or title, a medium format including a few other elements, and a more detailed format that includes a summary of the page or the first few words of the page (typically Title, URL, Summary, etc.). The long format is usually the default." (Hock at 43.) *Sample Record:* **1. United Nations Home Page** This is the official Web Site of the United Nations Headquarters in New York. Here you will find daily UN News, UN Documents and Publications, UN...URL: www.un.org/ Last modified on: 21-Apr-2000 - 6K bytes - in English Translate More pages from this site Related pages **Facts about: United Nations Po...** (Hock at 72.)  *Figure 10.3 Yahoo!'s results page* (Hock at 179.) "The text shown in the record just after the title is, unlike with most other search engines, not an 'abstract' or description taken from the metatags or first part of the page. Instead you're shown the text surrounding the word(s) that caused the record to be retrieved. To make for easy browsing, Google conveniently highlights the retrieving word(s) by putting them in bold." (Hock at 119.)
wherein the annotation is provided in response to a presence or absence of the	"The text shown in the record just after the title is, unlike with most other search engines, not an

Exemplary Limitations: '959 Patent, Claim 11	**Hock, *The Extreme Searcher's Guide to Web Search Engines* (2d ed., 2001) ("Hock")**
one or more search term elements in the referenced webpage;	'abstract' or description taken from the metatags or first part of the page. Instead you're shown the text surrounding the word(s) that caused the record to be retrieved. To make for easy browsing, Google conveniently highlights the retrieving word(s) by putting them in bold." (Hock at 119.)  *Figure 10.3 Yahoo!'s results page* (Hock at 179.)
wherein the annotation is automatically placed in the search result grouping so that it is associated with the automatically annotated Internet search result;	"The text shown in the record just after the title is, unlike with most other search engines, not an 'abstract' or description taken from the metatags or first part of the page. Instead you're shown the text surrounding the word(s) that caused the record to be retrieved. To make for easy browsing, Google conveniently highlights the retrieving word(s) by putting them in bold." (Hock at 119.)

Exemplary Limitations: '959 Patent, Claim 11	Hock, *The Extreme Searcher's Guide to Web Search Engines* (2d ed., 2001) ("Hock")
	 *Figure 10.3 Yahoo!'s results page* (Hock at 179.)

Hock and each of the prior art search engine systems referenced therein thus demonstrate that the generic web search functionality claimed in the Patents-in-Suit was not novel by the filing of the Patents-in-Suit.

B. Annotation of Search Results

Beyond reciting conventional techniques for web search engine operations, the Patents-in-Suit purport to claim the idea of including an "annotation" associated with a search result when one or more search term elements is missing in the referenced result. But as with conventional search engine functionality, the idea of annotating search results to identify missing search terms was in no way novel by June 2011.

1. Identification of search terms in search results

The idea of automatically annotating search engine results with search terms has been known and used in the art since the late 1990s. By this time, it was understood among persons of ordinary skill in the art that search engine results pages could bold or highlight search terms found in resulting webpages to provide a more effective interface. For example, by 1995, the

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

Lycos search engine emphasized search terms located in returned results by bolding them in the search engine results page. Nicholson, "Indexing and Abstracting on the World Wide Web: An Examination of Six Web Databases," Syracuse Univ. (1997) at 6, *available at* https://surface.syr.edu/cgi/viewcontent.cgi?article=1125&context=istpub&httpsredir=1 ("The citation has the title of the page and an abstract made up of some of the first 100 words. It lists the keywords found in bold."). Similarly, the Infoseek search engine (1997) highlighted user search terms found within the identified results. Hearst, *Search User Interfaces*, Cambridge Univ. Press (2009) ("SUI") at 1.5.2, *available at* https://searchuserinterfaces.com/book.



(SUI at Fig. 1.1 (Search results listings from Infoseek in 1997) (excerpted).)

While these techniques for annotating search results were known and used in commercial search products for more than a decade before, Hearst described the value of these techniques in her 2009 book, *Search User Interfaces*:

> It has also been shown that visually highlighting query terms can be a useful feature for search interfaces. Term highlighting refers to altering the appearance of portions of text in order to make them more visually salient, or "eye-catching". Highlighting can be done in boldface, reverse video, by displaying a colored background behind each occurrence of

> a query term, assigning a different color to each term. This helps draw the searcher's attention to the parts of the document most likely to be relevant to the query, and to show how closely the query terms appear to one another in the text.

SUI at 1.5.2. (internal citations omitted).

By the time of Hearst's publication—and the filing of the patents-in-suit—this technique was hardly new, as nearly all major Internet search engines were using some technique to highlight or emphasize individual search terms in search results pages. *See, e.g.*, U.S. Patent Application Publication No. 2010/0145923 by Wang et al. at Fig. 5 (illustrating bolding of search terms in search results).

2. Identification of frequency of keywords in search results, including the absence of keywords

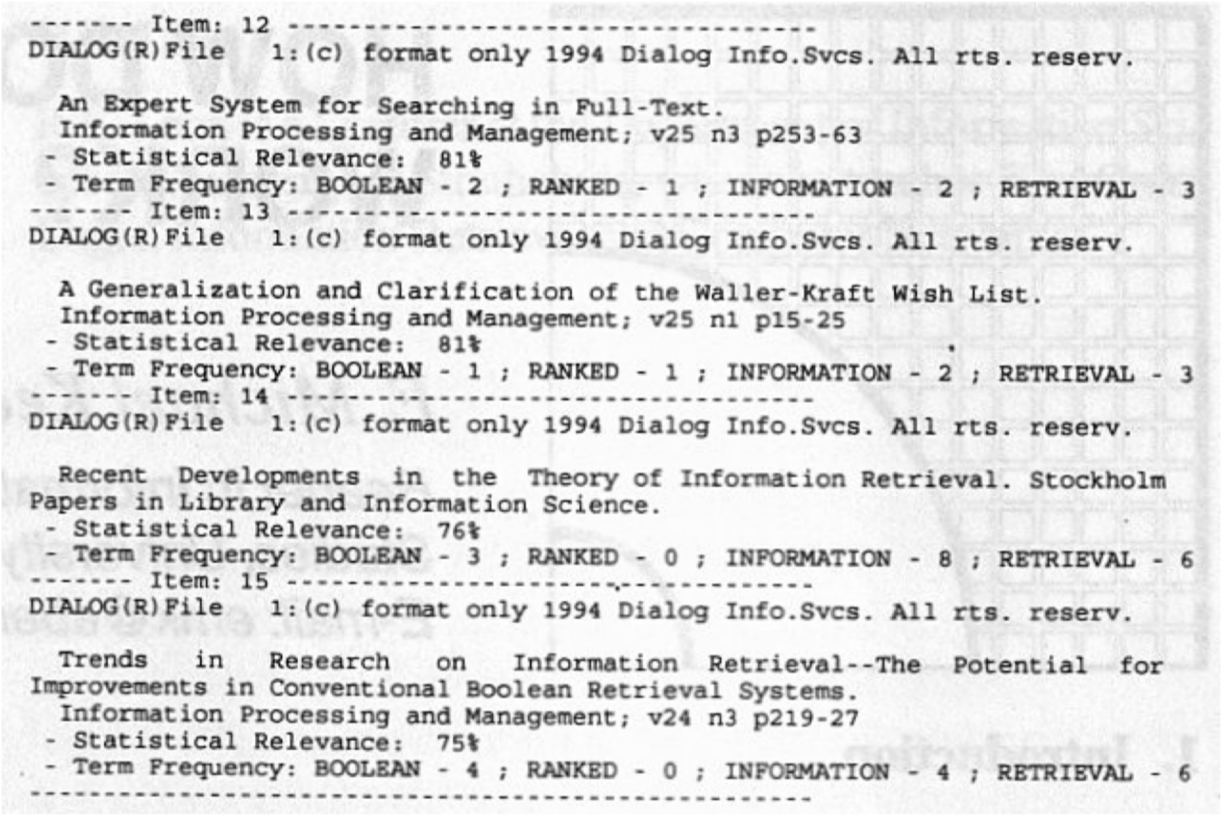
Beyond emphasizing keywords found in search results pages, the idea of annotating search results with information relating to the frequency of individual keywords usage in each result—including the absence of terms—was also well-known in both prior art systems and publications before the patents-in-suit.

For example, Dialog Corp.'s TARGET (1993) was a relevancy ranking tool that enabled users of Dialog's information retrieval system to locate relevant records in a decreasing match order. Keen, "How does Dialog's TARGET Work?" *Online & CDROM Review* (Vol. 18, No. 5, Oct. 1994) ("Keen") at 285. TARGET further displayed, for each search result, an identification of the frequency of each query term in the matched result, including those terms that were absent entirely.

For example, Figure 1 of Keen, shown in part below, illustrates the last four results for a query "boolean ranked information retrieval," with the final two results including the annotation that the term "ranked" was absent in the returned result. *Id.* at 286; *see also id.* at 287, Fig. 2 (additional example). TARGET demonstrates that the idea of identifying absent search terms

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

alongside search results was not only known in the art but used in commercial data retrieval systems nearly two decades before the filing of the patents-in-suit.



```
------- Item: 12 ---------------------------------
DIALOG(R)File   1:(c) format only 1994 Dialog Info.Svcs. All rts. reserv.

  An Expert System for Searching in Full-Text.
  Information Processing and Management; v25 n3 p253-63
 - Statistical Relevance:  81%
 - Term Frequency: BOOLEAN - 2 ; RANKED - 1 ; INFORMATION - 2 ; RETRIEVAL - 3
------- Item: 13 ---------------------------------
DIALOG(R)File   1:(c) format only 1994 Dialog Info.Svcs. All rts. reserv.

  A Generalization and Clarification of the Waller-Kraft Wish List.
  Information Processing and Management; v25 n1 p15-25
 - Statistical Relevance:  81%
 - Term Frequency: BOOLEAN - 1 ; RANKED - 1 ; INFORMATION - 2 ; RETRIEVAL - 3
------- Item: 14 ---------------------------------
DIALOG(R)File   1:(c) format only 1994 Dialog Info.Svcs. All rts. reserv.

  Recent Developments in the Theory of Information Retrieval. Stockholm
Papers in Library and Information Science.
 - Statistical Relevance:  76%
 - Term Frequency: BOOLEAN - 3 ; RANKED - 0 ; INFORMATION - 8 ; RETRIEVAL - 6
------- Item: 15 ---------------------------------
DIALOG(R)File   1:(c) format only 1994 Dialog Info.Svcs. All rts. reserv.

  Trends in Research on Information Retrieval--The Potential for
Improvements in Conventional Boolean Retrieval Systems.
  Information Processing and Management; v24 n3 p219-27
 - Statistical Relevance:  75%
 - Term Frequency: BOOLEAN - 4 ; RANKED - 0 ; INFORMATION - 4 ; RETRIEVAL - 6
-------------------------------------------------
```

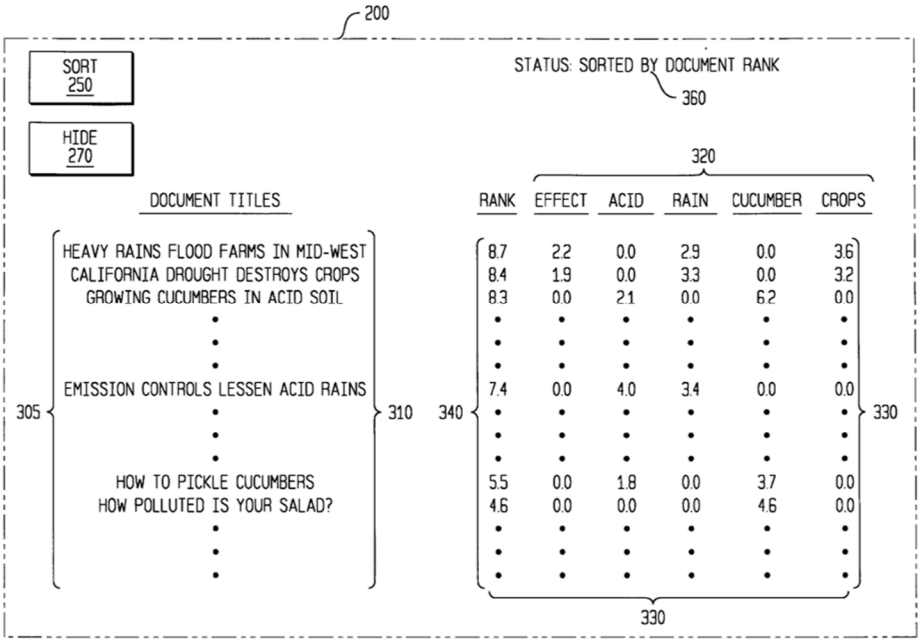
(Keen at Fig. 1 (286) (excerpted).)

Just two years after TARGET's debut, a similar technique was described in U.S. Patent No. 5,826,260 to Byrd, Jr. et al. ("Byrd"), which discloses an information retrieval system wherein "query elements" (*i.e.*, keywords) are evaluated against a document collection and used to produce a "hit list" that "displays not only an overall rank of a document but also a contribution of each query element to the rank of the document." Byrd at 3:46-49. In the hit list (*i.e.*, search result page), each row displays information about a single document identified as a result of the search query and each query element labels a column that contains that query term's "contribution component" to the document ranking. *Id.* at 4:58-60, 4:67-5:6. Like TARGET, a value of zero corresponding to a query element indicated an absence of that search term in the

associated search result. *See, e.g.*, *id.* at Fig. 3A (value of "0.0" for search terms "acid" and "cucumber" in the first search result). While Byrd uses numerical values in its preferred embodiment, it also notes that "histogram bars of varied lengths, icons of varied colors, shapes, or textures, etc." could be used to denote the contribution component of each query term. *Id.* at 6:22-29.

Byrd thus recognized—in 1995—that (1) search results could be annotated with information to reflect an absence of a query term in a given result, (2) that such an annotation could be presented textually (*e.g.*, a numerical value) or graphically (*e.g.*, histogram or icon), and (3) that such an annotation could be presented with other visual aids (*e.g.*, color, shape, texture).

FIG. 3A

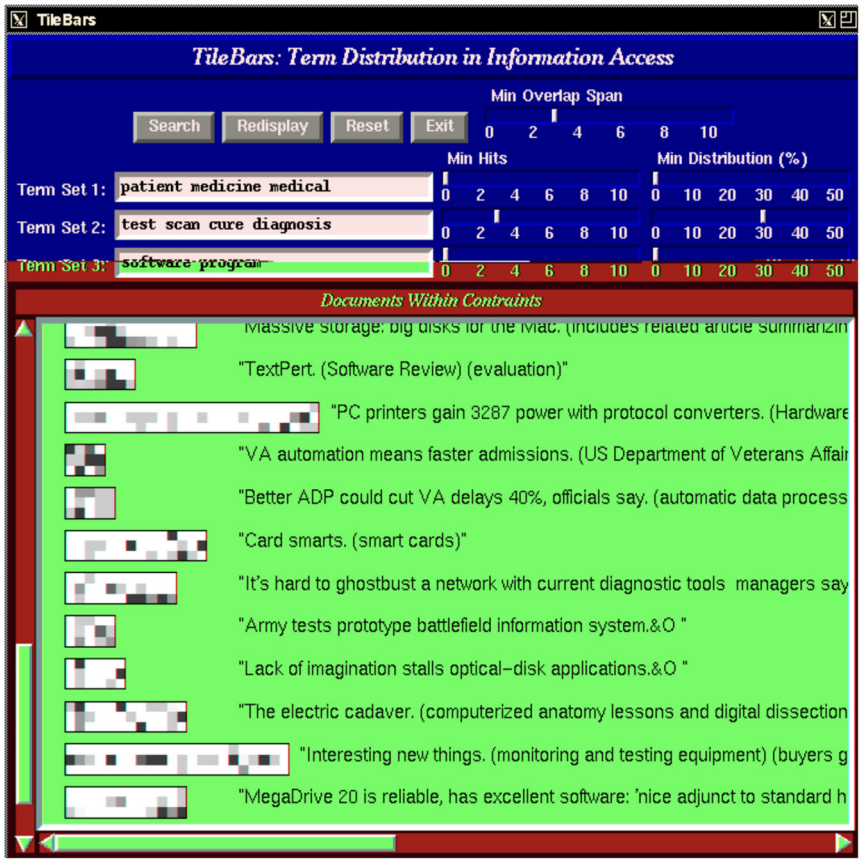


(Byrd at Fig. 3A.)

Bryd's observation that a "contribution component" corresponding to each search term could be presented graphically and through the use of histograms or colors coincided with the development of search visualization systems and related publications that implemented these ideas.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

For example, also in 1995, Marti Hearst published "TileBars: Visualization of Term Distribution Information in Full Text Information Access," *Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems* (CHI) (Denver, CO, 1995) ("Hearst 1995"), disclosing a search results interface called TileBars that attempted to show users, graphically, the relationship between the words in a search query and the documents retrieved. The goal of TileBars was to simultaneously indicate to a user (1) the relative length of the document, (2) the frequency of the term sets in the document, and (3) the distribution of the term sets with respect to the document and each other. *Id.* at 4. For each document, represented by a rectangle in the results list, there was a collection of square "TextTiles," the darkness of which indicated the frequency and relative location of the term within the resulting document (with white indicating 0 and black indicating 8 or more instances). *Id.*

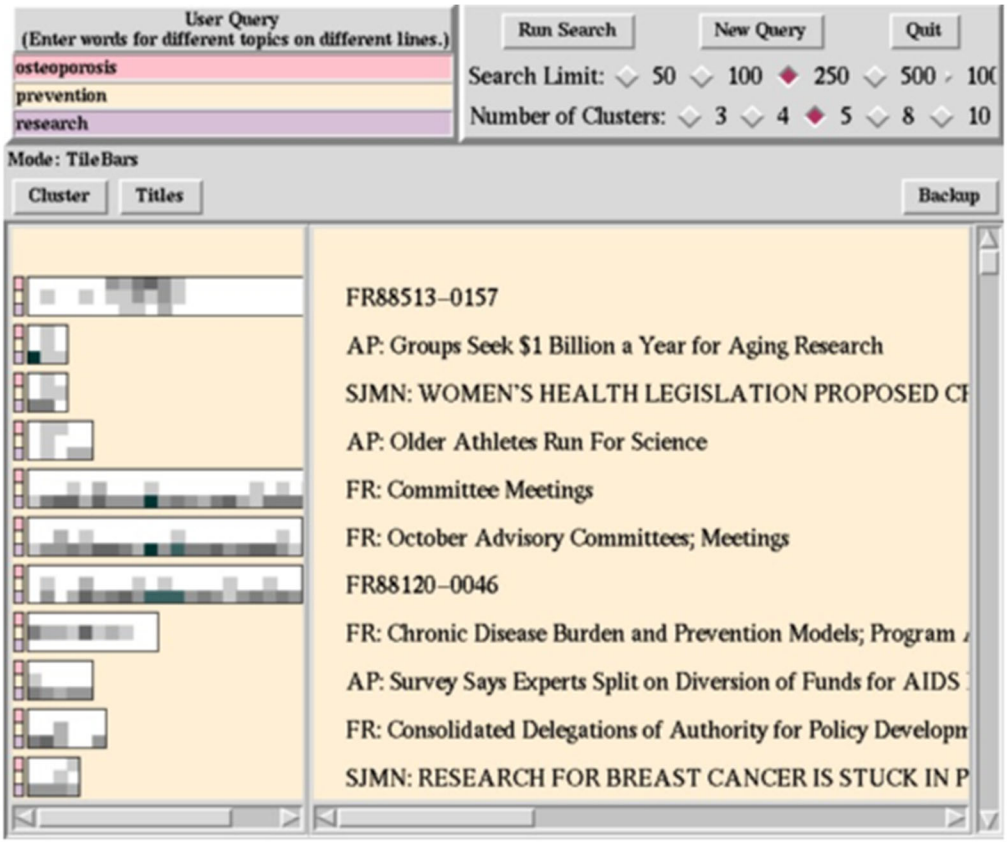


AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

(Hearst 1995 at Fig. 4.)

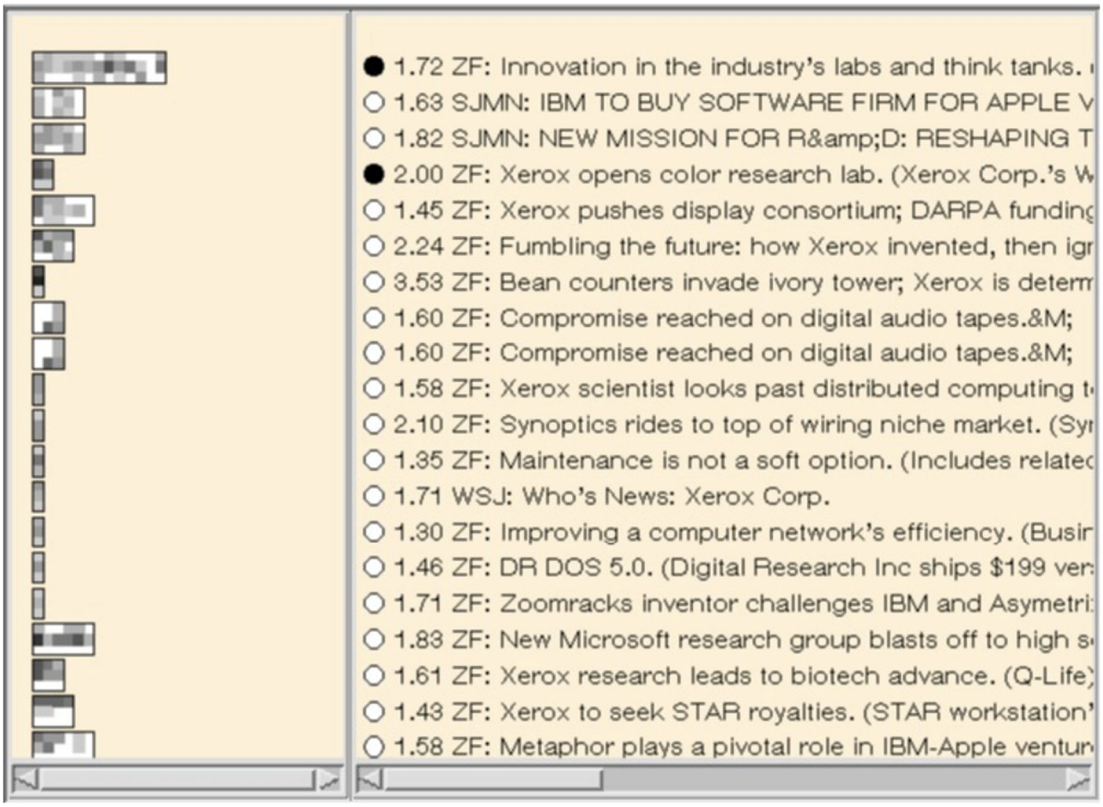
In a related publication in 1997, Hearst provided an example of a search for three sets of terms—"xerox," "research parc," and "business marketing cost"—resulting in a set of search results shown in the screenshot below. Hearst, Research: TileBars (1997), *available at* https://people.ischool.berkeley.edu/~hearst/research/tilebars.html ("Hearst 1997"). As Hearst explains, "the top row of each TileBar corresponds to *osteoporosis*, the second row to *prevention*, and the third row to *research*. . . . The darkness of the square corresponds to the number of times the query occurs in that segment of text; the darker the square the greater the number of hits. White indicates no hits on the query term." *Id.* Thus, with TileBars, a missing search term was visually indicated by annotating the search result for a given document with a white row of boxes corresponding to the missing term. Accordingly, in the screenshot below, the term "osteoporosis" is shown to not appear in the fourth, fifth, sixth, seventh, eighth, or ninth documents as indicated by the white row of squares in the first row (which corresponds to the term "osteoporosis") of the rectangle next to each of those documents.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287



(Hearst 1997.)

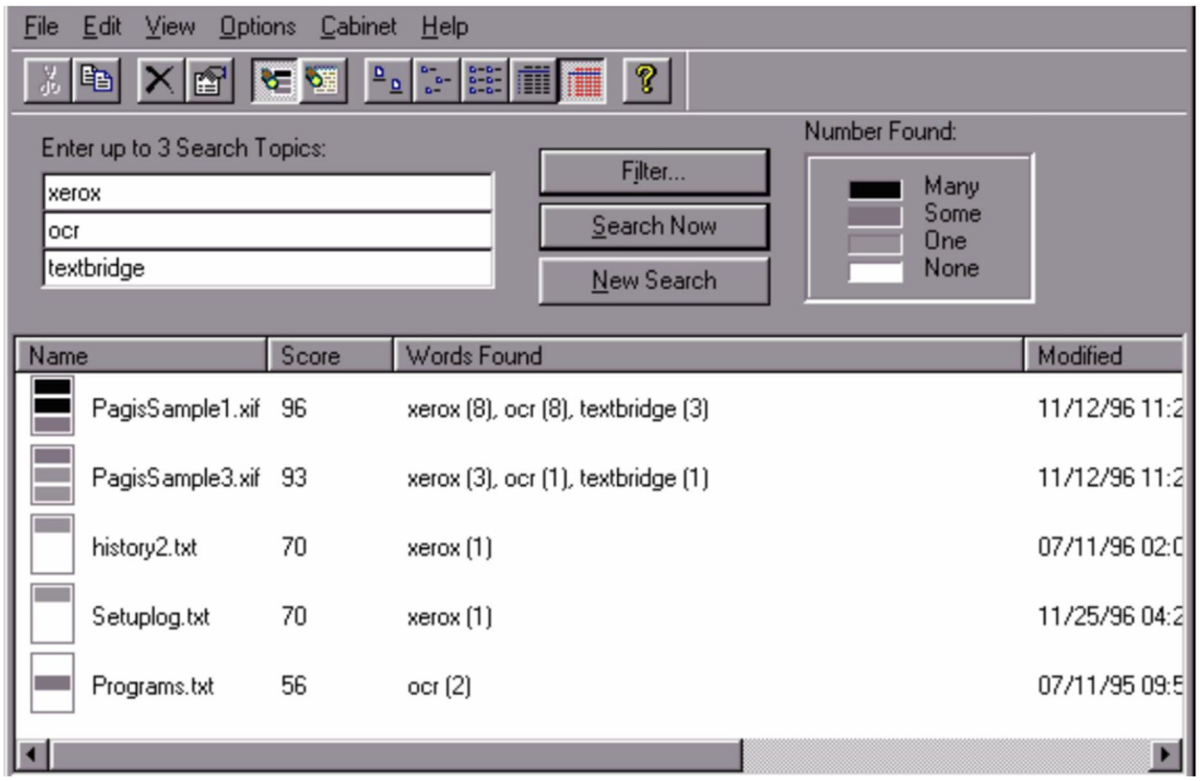
AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287



(Hearst 1997.)

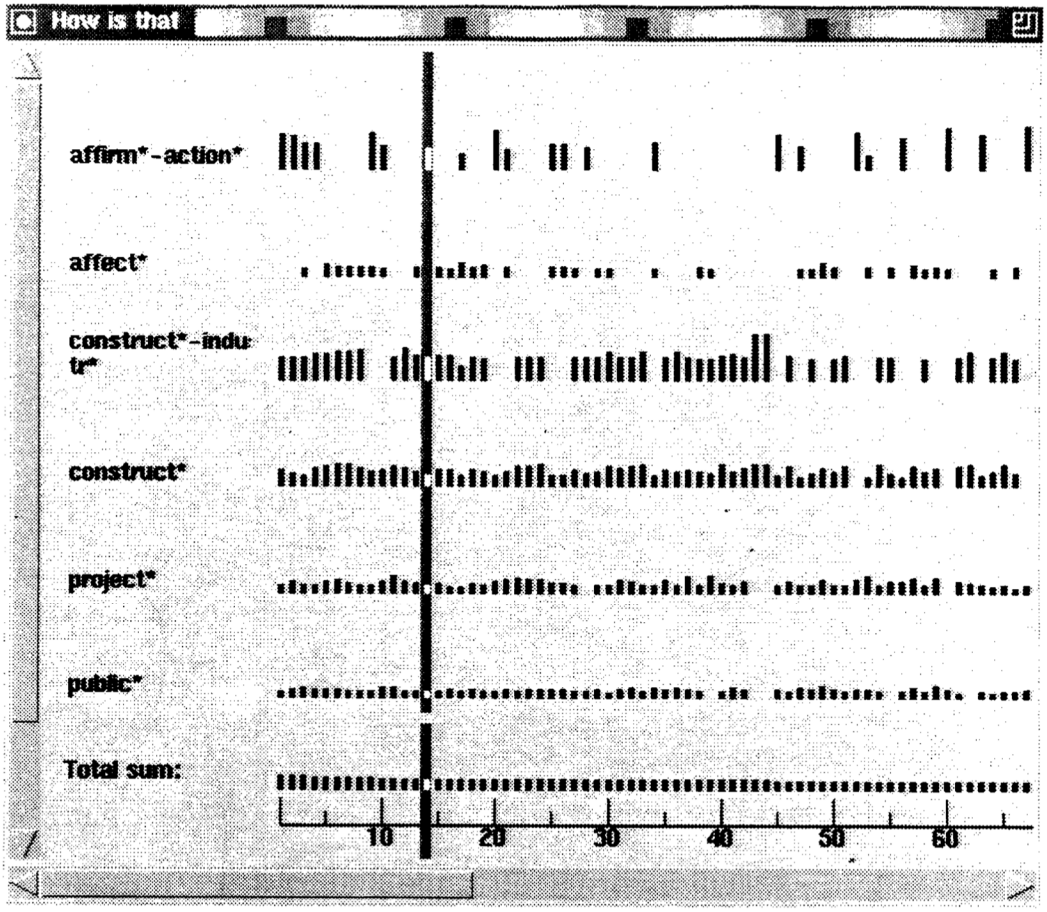
Also in 1997, a version of TileBars was implemented in Pagis Pro97, a commercial software application integrated into the Windows 95/NT desktop. *Id.* The screenshot below shows search results corresponding to a query for three terms—xerox, ocr, textbridge. The results indicate the presence or absence of search terms in the resulting documents, both using the visual indication of TileBars (*e.g.*, the final three documents have two white rows, indicating the absence of terms) and a column specifying the words found and frequency.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287



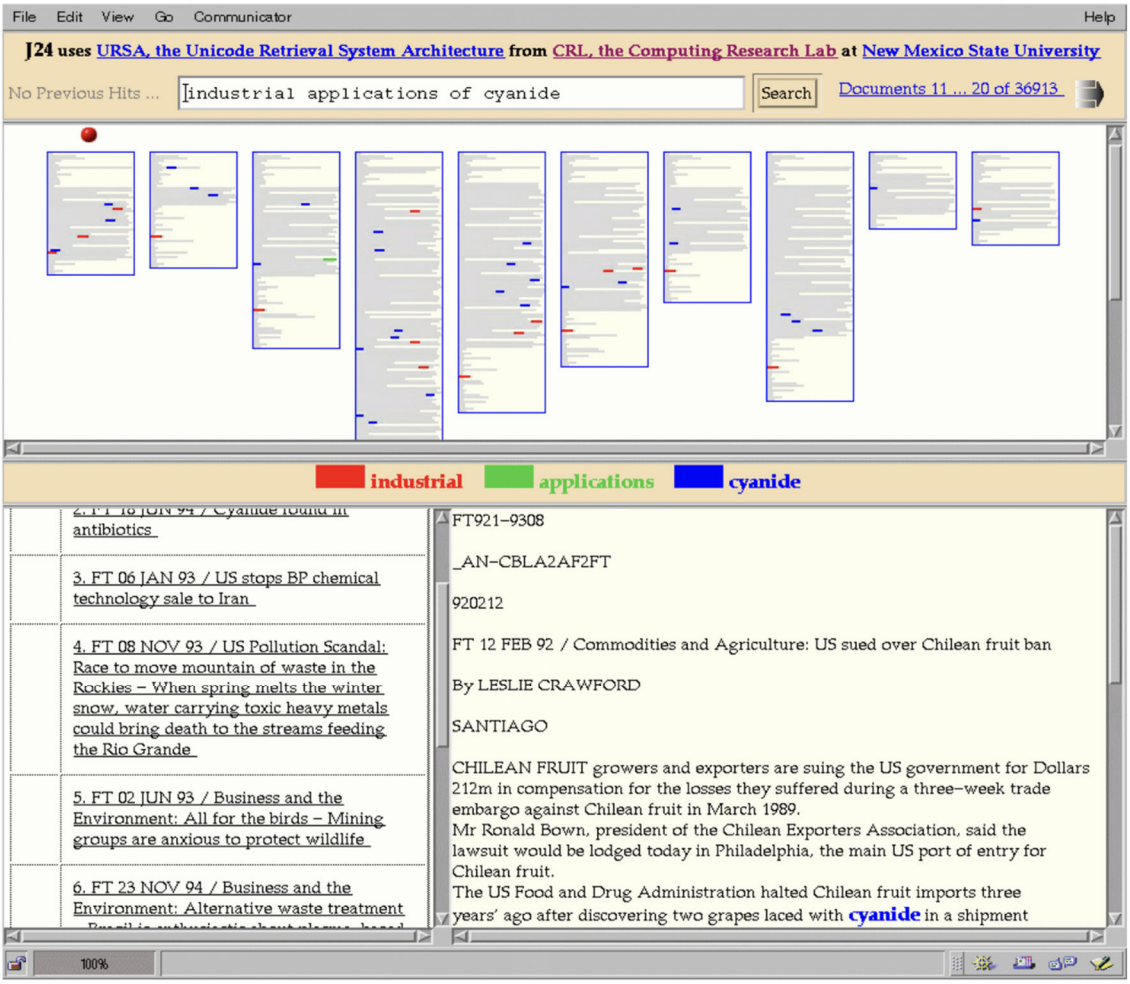
(Hearst 1997 (Pagis Pro97 screenshot).)

Other publications around this time proposed similar approaches to visualizing search results and providing the user with an immediate indication of which documents included desired search terms. Veerasamy and Belkin (1996) developed a search results display with rows representing search terms and columns representing documents. Veerasamy et al., "Evaluation of a tool for visualization of information retrieval results," *Proceedings of the 19th Int'l Conf. on Research Development in Information Retrieval (SIGIR'96)* (Zurich, Switzerland Aug. 18-22, 1996), pp. 85-92. The absence of a given search term or terms was immediately recognizable as white space in a given column, whereas the presence of a term and its frequency was visible based on the vertical height of the displayed line. *Id.* at 88.



(Veerasamy at Fig. 2 (88).)

In 1998, Ogden proposed the idea of visualizing documents using a thumbnail view that included an indication of the presence or absence of query terms through the use of highlighting on the thumbnail views. Ogden et al., "Document Thumbnail Visualizations for Rapid Relevance Judgments: When Do They Pay Off?" *Proceedings of the 7th Text Retrieval Conference (TREC-7)* (1998), pp. 528-534.



The J24 Interface

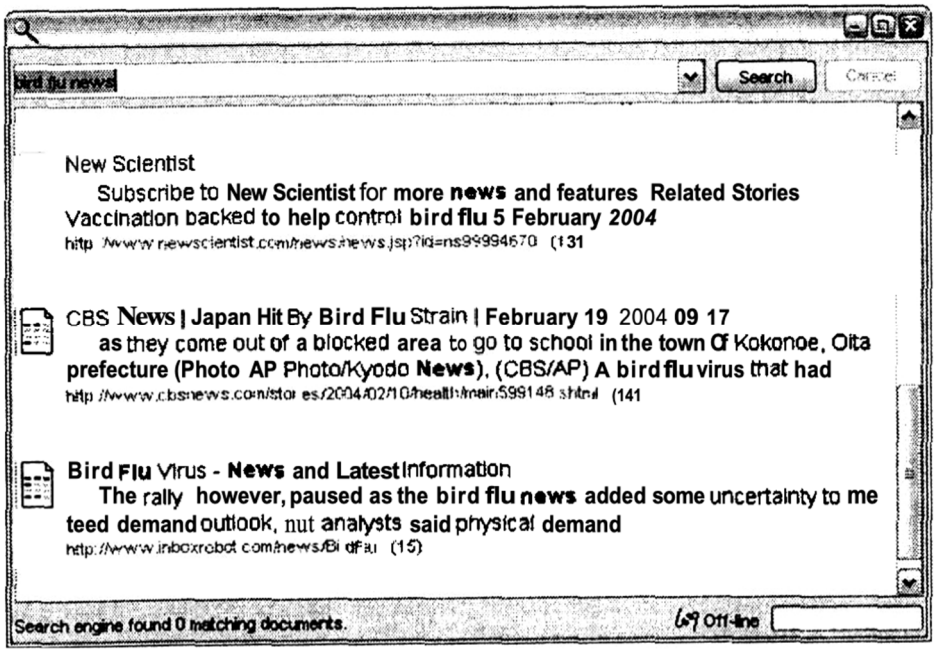
(Ogden at 534.)

As the above references demonstrate, by the year 2000, there were a number of well-known ways of annotating search results to identify the absence of a search term in a displayed result, whether through numerical values, as taught by TARGET and Byrd, or through visual indications corresponding to a null value, as in TileBars, Pagis Pro97, Veerasamy, and Ogden. The notion of identifying missing search terms in a given result or set of results continued to be developed in the 2000s, well before the filing date of the patents-in-suit.

By 2005, the search result annotations described above in the context of information retrieval systems were being applied specifically in the context of web search engines. *See, e.g.*,

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

Heimonen & Jhaveri, "Visualizing Query Occurrence in Search Result Lists," *Ninth International Conference on Information Visualisation (IV'05)* (London, UK, 2005) ("Heimonen"), pp. 877-882. Heimonen, citing many of the above-referenced publications and systems, proposed an annotation to appear alongside individual web search results in the form of a document-shaped icon, called an indicator. *Id.* at 878.



(Heimonen at Fig. 1.)

Heimonen's indicator displayed the frequency of individual keywords in a given web search result through the shading of individual rectangle icons on the indicator. As Heimonen explains, "Figure 2 shows three possible indicators, from left to right: many occurrences of the query across the result document, no occurrences of the query in the result document, and query occurrence details unavailable for the document. Further, the first indicator reveals that the last section of the retrieved document only contains one occurrence of the query. In contrast, the first and the third sections contain three or more such occurrences, while the second section of the document contains no occurrences." *Id.*

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287



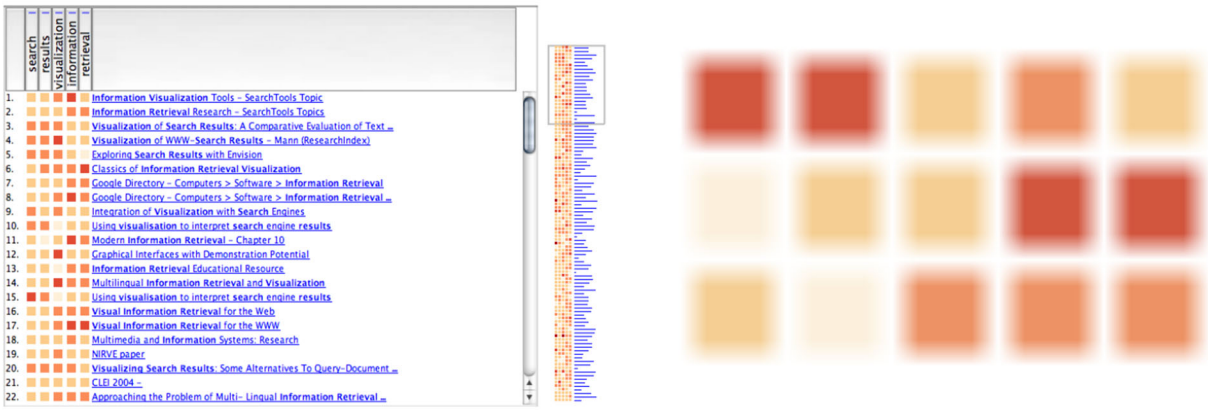
Figure 2. The indicator with three different possible results.

(Heimonen at Fig. 2.)

Heimonen further recognized that distinguishing query terms in the indicator by color was possible. *Id.* at 879.

Orland Hoeber and Xue Dong Yang included this color-based feature the following year in their web search interface, called HotMap. Hoeber et al., "The Visual Exploration of Web Search Results Using HotMap," *Proceedings of the 14th International Conference on Information Visualisation*, (2006) ("Hoeber 2006") pp. 157-165. "HotMap is a meta-search system that retrieves the document surrogates for a given user query from the Google API, and presents these web search results using visual representations at two levels of detail." *Id.* at 159. "The first column contains the document surrogate number, allowing the user to easily identify the degree of importance placed on each document surrogate by the underlying search engine algorithms. The next *n* columns hold the frequencies of the query terms, represented by a colour value. The final column contains the title of the document and tool tips to access the hidden information including the snippet and the URL." *Id.* at 160. Notably, HotMap represented a further development of TileBars, adapting it to a web search engine results context. *Id.* at 161; *see also* SUI at Fig. 10.16 ("A simplified version of TileBars called HotMap").

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287



(a) *HotMap* screen shot (b) magnification of overview map

(Hoeber 2006 at Fig. 1.)

HotMap was further developed through 2008, during which time the search results interface was improved to provide additional search result details (title, result excerpt, URL), as well as enhancing filtering and sorting capabilities, all while retaining the per-result color-coding to indicate the presence or absence of search terms in the result. *See, e.g.*, Hoeber, "Lightweight Additions to the Web Search Interface Supporting Exploratory Web Search," *Second Workshop on Human-Computer Interaction and Information Retrieval (HCIR 2008)*, Redmond, Wash. (Oct. 23, 2008) ("Hoeber 2008").

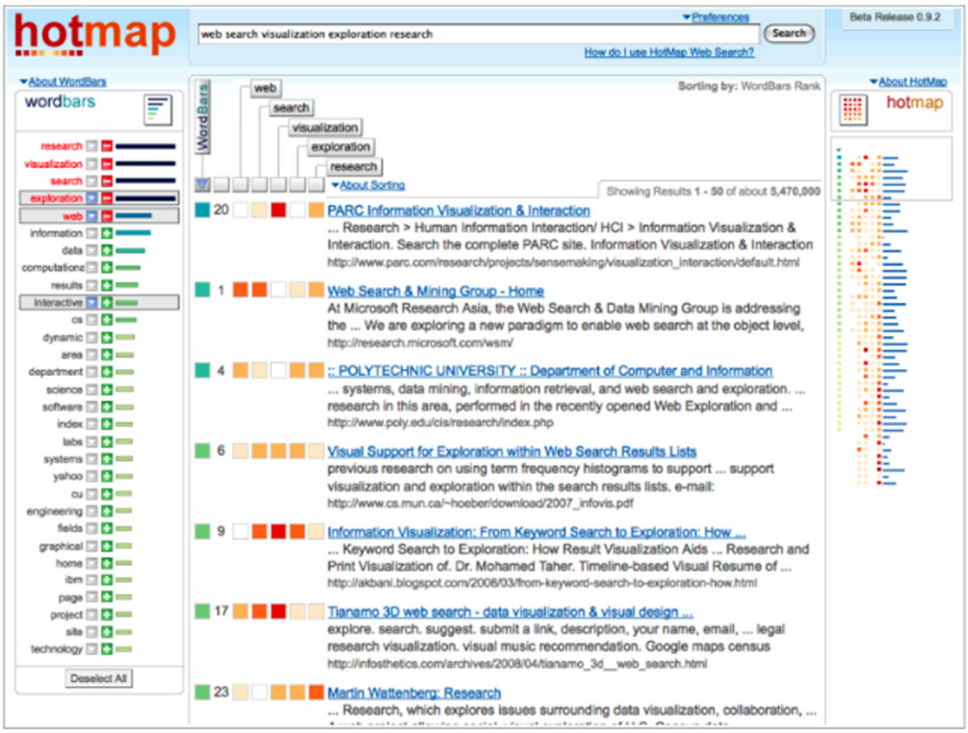


Figure 1: A screenshot of *TheHotMap.com*. Note the lightweight controls representing common terms in the search results set (WordBars histogram, on the left) and the frequency of the query terms in the search results set (HotMap overview, on the right), along with the re-sortable search results list using the HotMap query term headers (centre).

(Hoeber 2008 at Fig. 1.)

In 2006, the BETA System, an Internet search engine which was part of the IBM Web Fountain project, had implemented a search results listing that was augmented by the TileBars display, with each search term having a unique color and indicating term frequency within the given search result. (SUI at 11.1.) The BETA results display, illustrated below, included a grouping for each search result, including a title, content excerpt, URL, and link, as well as an annotation located at the bottom of the grouping to indicate individual term frequency within a given document. While TileBars was developed in the context of traditional information retrieval systems, it was thus known and understood by at least 2006 that it could equally be used in the context of Internet search engines and web-based search results pages.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287



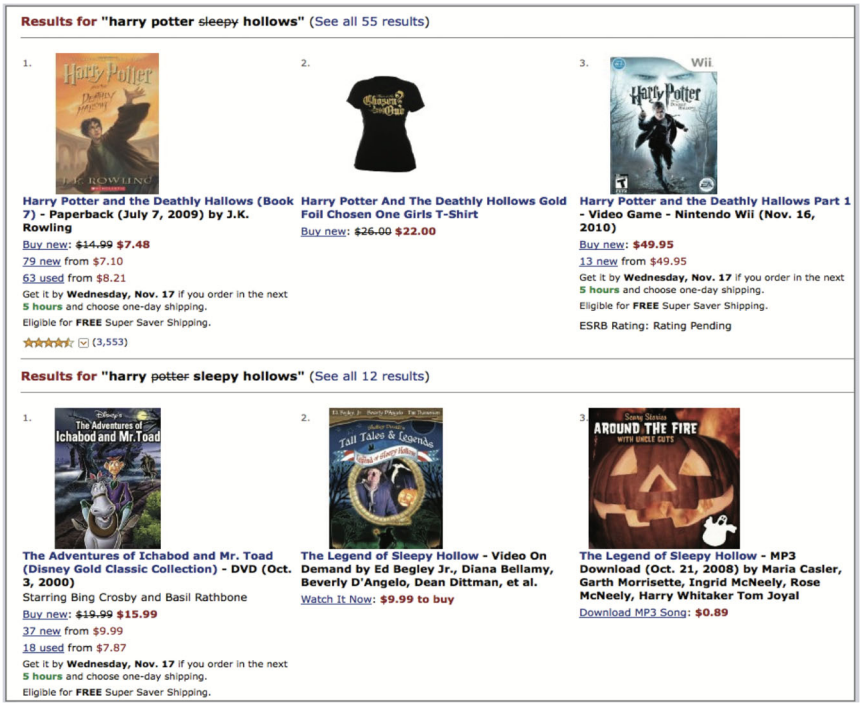
(SUI at Fig. 11.3.)

The above technologies demonstrate that the idea of providing search results based on some, but not necessarily all, of a user's supplied search terms was known and used in the art by no later than 2006. Providing search results based on an incomplete set of search terms—sometimes called "partial match"—was further described in prior art publications and implemented in commercial systems as the prior art developed. A publication by Nudelman describing designing for user experience in the eCommerce context explained that "[p]artial match is a strategy that shows some relevant content that matches a viable part of the customer's query, while also indicating which keywords were omitted from the search results. Showing

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

partial matches is important because what people find often changes what they seek by giving them additional clues about the target content. Effective partial match strategy gives your customers the best chance to recover and succeed in finding what they are looking for on your site." Nudelman, *Designing Search: UX Strategies for eCommerce Success* (Wiley, May 2011) ("Nudelman") at 12.

Nudelman cites Amazon.com as a particularly effective implementation of partial match by 2011. A screenshot of a search results page on the Amazon.com website from before the priority date of the patents-in-suit is reproduced below and shows search results grouped by missing search term and wherein the missing terms are annotated by a strike-through (*e.g.*, "harry potter ~~sleepy~~ hollows" and "harry ~~potter~~ sleepy hollows"). Nudelman thus illustrated that text-based annotations, similar to TARGET and Byrd, could be implemented in a web-based search system with stylized fonts (*e.g.*, strike-through) utilized to provide an immediate visual cues to the user about the relevance of the result.



(Nudelman, *Designing Search* at Fig. 1.7 (13).)

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

Amazon's partial match user interface technique was further described in patents assigned to Amazon. For example, U.S. Patent No. 8,880,547 to Mills ("Mills") describes a situation in which, to prevent too few results due to a narrow search scope, a search engine generates altered versions of a user-supplied search string and generates a results page that groups results based on the altered versions of the search query. *See* Mills at 6:19-7:40. Mills, like Nudelman, further identifies missing search terms on the results pages with a strike-through, indicating that that specific term was not found in the group of results. *See id.* & Fig. 2. U.S. Patent No. 9,098,569 to Bhagat ("Bhagat") similarly discloses using a strikethrough format on a search results page where the stricken text indicates search terms missing from the given results grouping. *See* Bhagat at 8:29-44 & Figs. 2-3.

Thus, by June 2011, it was well known in the art that search engine results page interfaces could identify both query terms present in a result and query terms absent from that result. It was also well known that this information could be conveyed through annotations using a variety of interface designs and formats, including textual or graphical elements, and by means of color, stylization, highlighting, or other visual emphasis. It was further known by persons of ordinary skill in the art that search results information could be presented visually in a wide variety of layouts and orientations on a search results page. In short, none of these features claimed in the patents-in-suit were novel or non-obvious by the filing date of the patents-in-suit.

C. Searching Descendent Webpages

The idea of searching (child) webpages linked from another (parent) website for search terms was in no way novel by the filing of the Patents-in-Suit. For example, U.S. Patent Application Publication No. 2006/0059126 by Naick ("Naick") recognized that some search systems do not return the requested information because not all search terms are located on a single page of the site. Naick at [0004]. Naick teaches that such a website may nonetheless be

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

responsive to the user's query and discloses "query based searches that provide results wherein at least one of the query terms . . . may appear on a different page of a web site or domain." *Id.* at [0005]. In Naick, "grouped pages may be evaluated as a single searchable entity, and search results may be grouped according to domain." *Id.* at [0006]. Naick's technique evaluates keyword indexes that "hold and compare domain information i.e. web site information rather than web page information," (*id.* at [0021]) thus indexing search terms based on their presence in at least one of multiple, related webpages that are part of the same site.

Naick teaches that search results may initially display only relevant results from a website's homepage or a domain's top-level, but that clicking on a "+/–" icon shows descendant webpages that contribute to the top-level website being identified in the search results. *See id.* at [0018]-[0019], [0025]-[0026].

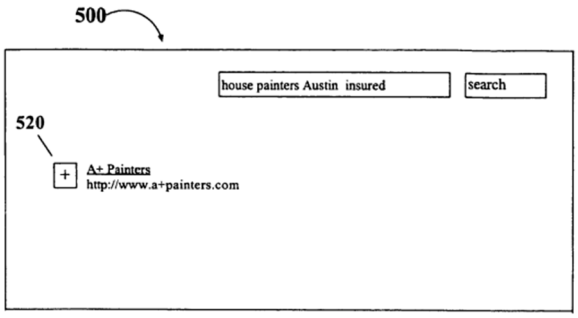


FIG. 5A

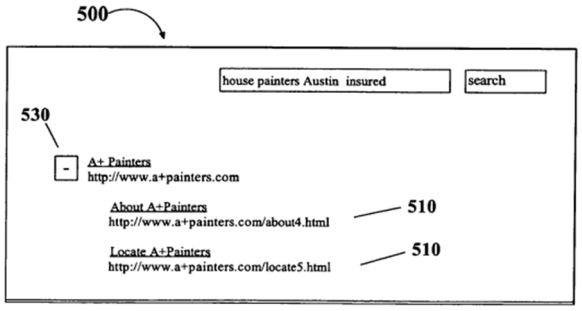


FIG. 5B

(Naick at Figs. 5A-5B.)

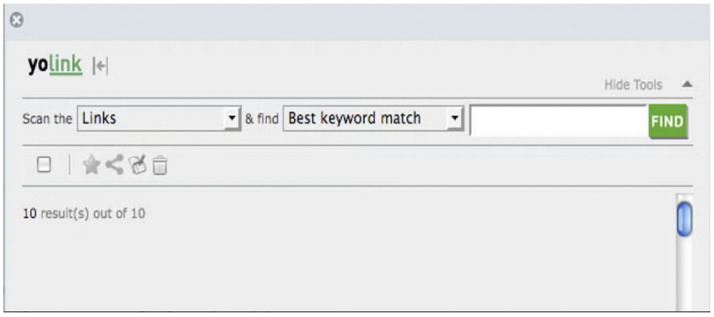
AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

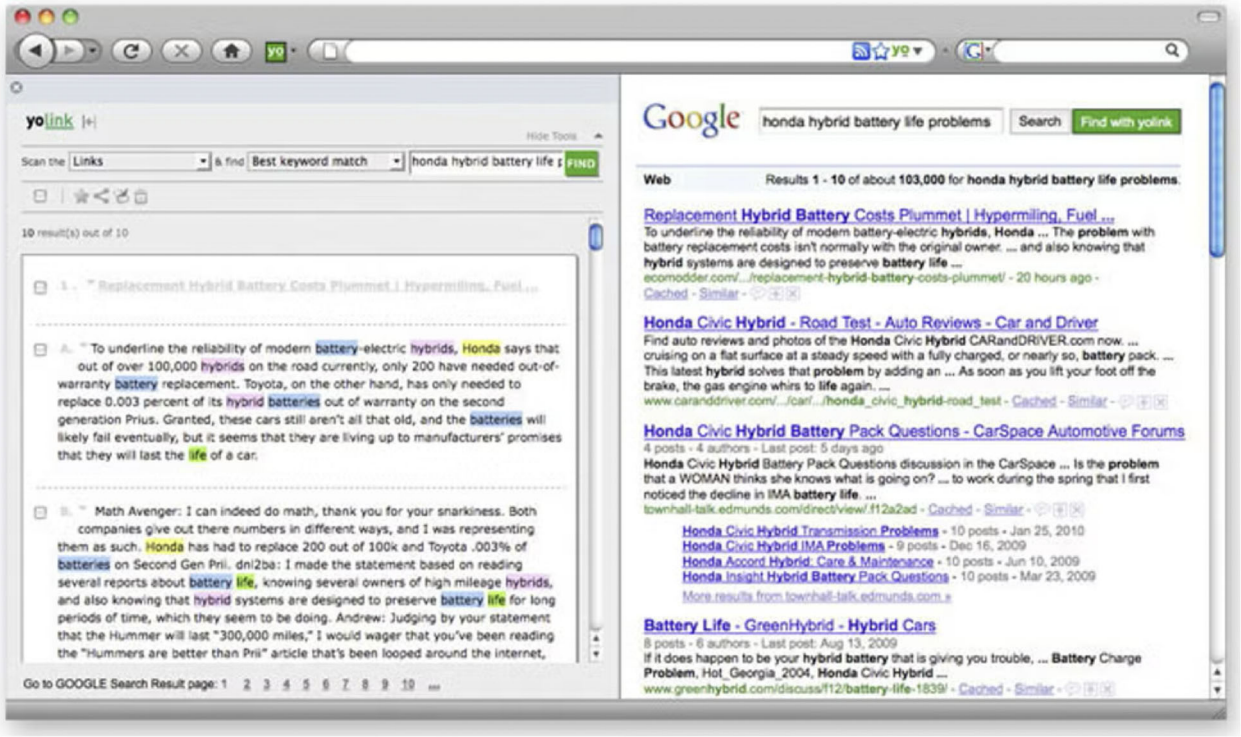
U.S. Patent No. 7,836,039 to Clark et al. ("Clark"), assigned to IBM, similarly teaches a system for "searching linked pages of information . . . and more specifically . . . to searching descendant pages of a root page for persistent keywords." Clark at 1:15-18. Clark describes embodiments in which a root page and descendant pages of the root page are identified as matching keywords, wherein "descendant pages that the search engine 190 finds are descendants of the root page at a level from the root page that is within a depth specified . . . ." *Id.* at 6:4-14. "The search request instructs the search engine 190 to search the descendant pages of root pages that include terms 635 that match the persistent search keyword(s), ..." *Id.* at 17:63-66. The search engine "returns the search results page 158 and the descendant results page 156 to the application 150, which includes links to the root pages and links to the descendant pages, respectively." *Id.* at 6:15-18.

Descendant webpage searching was also known in prior art systems before the Patents-in-Suit. TigerLogic's Yolink product (initially branded "ChunkIt") was a browser extension where "[t]ext is extracted from behind the link, keywords are highlighted and users can click on the passage to go directly to the relevant discussion in the document." Sterling, "Yolink Goes After Publishers With Search Preview Tool," SearchEngineLand.com (July 6, 2010), *available at* https://searchengineland.com/yolink-goes-after-publishers-with-search-preview-tool-45742 ("Sterling"). "The add-on splits your browser tab into two vertical sections, the left side with the ChunkIt results and the right side with unchunked results." Editor's Review, Yolink Firefox for Mac, CNET.com (Mar. 22, 2010), *available at* https://download.cnet.com/yolink-firefox/3000-2378_4-10884940.html ("Yolink Review"). Yolink "min[es] the contents of the webpages returned in response to search queries" to "examin[e] the pages for meaning and for their relevance to the queries." Garber, "New Service Promises to Improve Online Search," IEEE

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

Computer Society (Sept. 2010) at 17 ("Garber"). Yolink works with "any search engine, and any webpage with embedded links." *Id.*

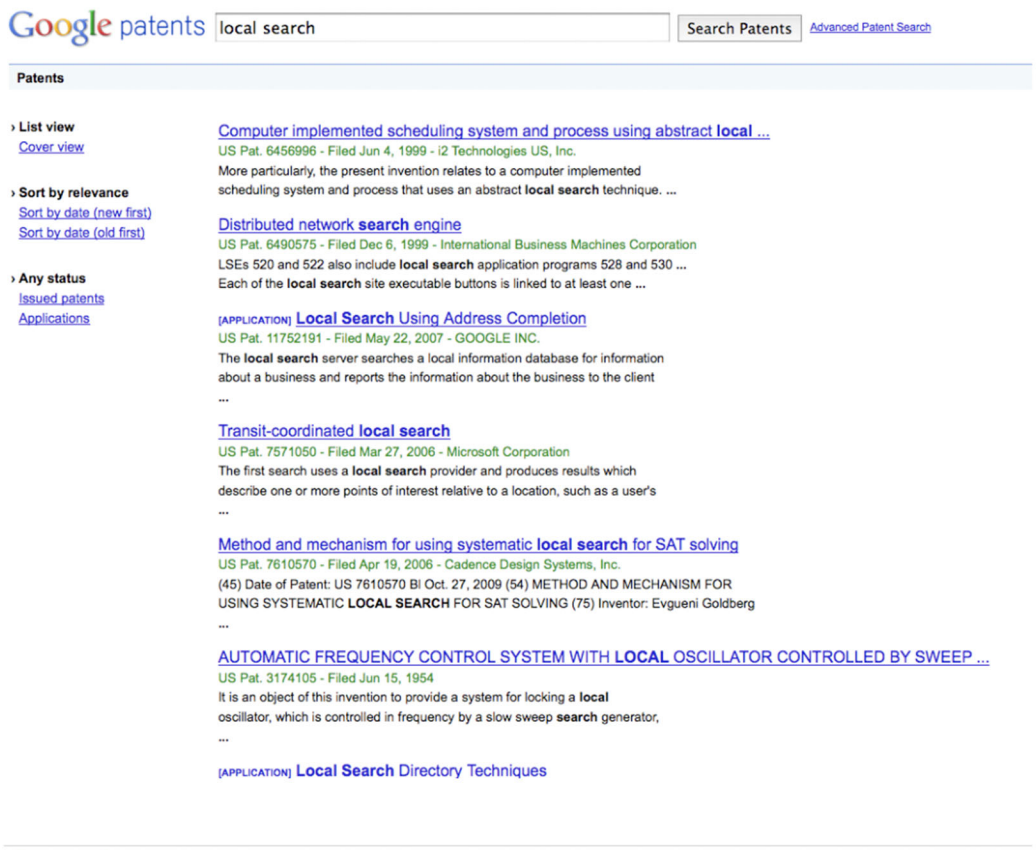


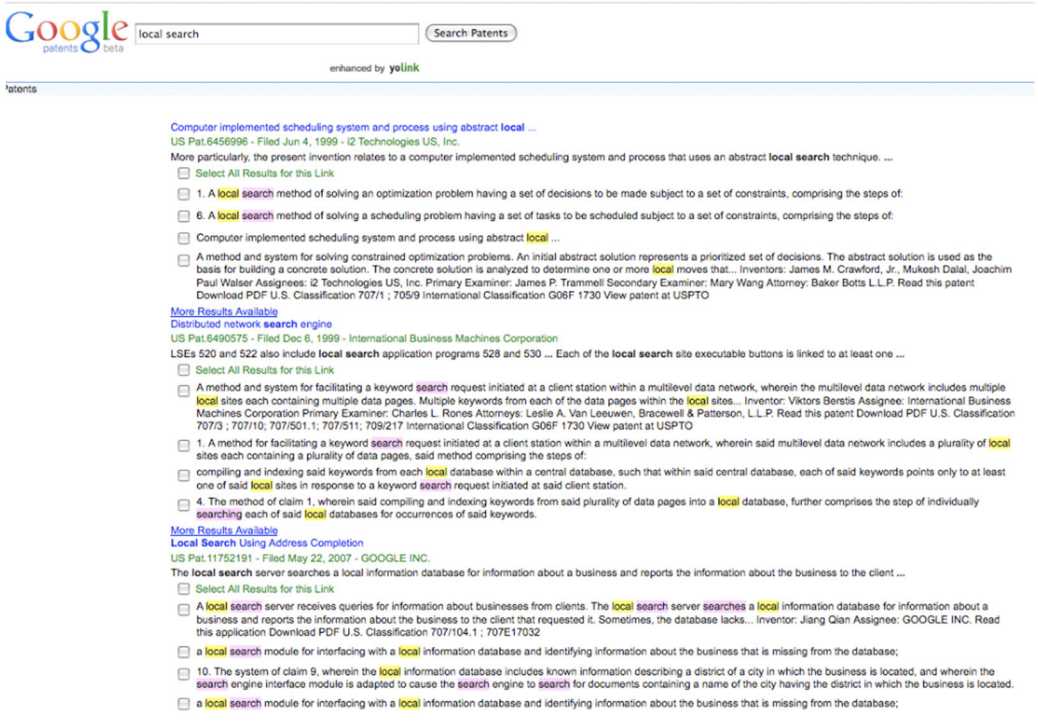


(Yolink Review.)

For example, on a Google Patents results page, Yolink could be used to automatically open and search each link for given text, resulting in an augmented search results page showing where the search terms appeared in the descendant webpages.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287





(Sterling.)

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

D. Filtering Search Results Based on Search Terms

The concept of filtering search results data was well known in the prior art by the filing of the Patents-in-Suit. In her 2009 book, Marti Hearst recognized the desirability of filter functionality in search user interface design, explaining that "[f]or nominal attributes which do not have a meaningful order, it can be more useful to provide users with a *filtering* function, to be used in conjunction with sorting. Filtering is the application of a category or attribute to select out from the search results only those items that meet the filtering criterion." SUI at 8.3. The prior art included a number of these filtering techniques.

For example, U.S. Patent Application Publication No. 2007/0168344 by Brinson ("Brinson") discloses a user interface for search engines that allows a user to designate the term's weight in a search. *See* Brinson at [0044]. A weight that is valued as "required" means that "any data product [e.g., a webpage] included in the results must include this term." *Id.* at [0045]. Brinson teaches a graphical user interface in which "a user enters terms for a query" and that includes "a text box 356 that allows a user to enter additional query terms" with a designated weight and a "list box" that "includes a list of terms currently used in the query." *Id.* at [0069]-[0071]. "The text box 356 allows a user to enter a term and then further select, as an example, 'require[d] term.'" *Id.* at [0070]. The "list box" further "includes a list of terms currently used in the query," which can be "selected by the user" and which "allow[s] a user to further modify the term['s]" weight (e.g., to make the term a 'Require[d] term'). *Id.* at [0071]. Brinson thus discloses the ability to filter a search result by providing the user with the ability to designate a given search term as required.

U.S. Patent No. 5,826,260 to Byrd describes a similar search results filtering technique through user manipulation of priorities and weights assigned to specific query terms. As discussed in Section IV.B.2 above, Byrd discloses a search results page that displays an overall

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

rank of documents alongside a "contribution component" score assigned to individual search terms used to produce the results. *See, e.g.*, Byrd at Abstract, Fig. 3A. Byrd further discloses the ability to sort the retrieved documents based on individual search terms and the ability to assign priority and weights to individual query elements. *Id.* at 5:45-60 ("The user 150 can override the initial ordering by re-specifying the priorities 390 and the weights 391 and cause the specified order to take effect by pressing the button labelled 'Process' 395."), Figs. 3B, 4, 6. A person of ordinary skill in the art would recognize from Byrd's disclosure that query terms with a low contribution component could be designated a lower priority and weighting in the disclosed reordering menu, thus filtering those results from the display.

U.S. Patent Application Publication No. 2007/0239676 by Stonehocker ("Stonehocker") discloses another example of prior art filtering. Stonehocker teaches providing a "list of selectable terms based on content included" on a search results page, "receiving a user-selected term from the list of selectable terms, and providing a second list of results" that narrows the scope of the initial search query, thus resulting in a "second list of results [that] excludes results having content related to the user-selected term." *See, e.g.*, Stonehocker at Abstract. Stonehocker recognized that search engine results pages may produce a large number of results, and that "a user may have difficulty finding websites of interest . . . , particularly if the relevant website is displayed on a fourth, fifth, or even later page of search results." *Id.* at [0002]. The proposed system provided a visitor to the search results page "with a list of terms that may be used as, for example, a search results map, index, or table of contents to enable visitor 102 to eliminate less relevant search results and perform a more focused search to identify more relevant results." *Id.* at [0017].

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

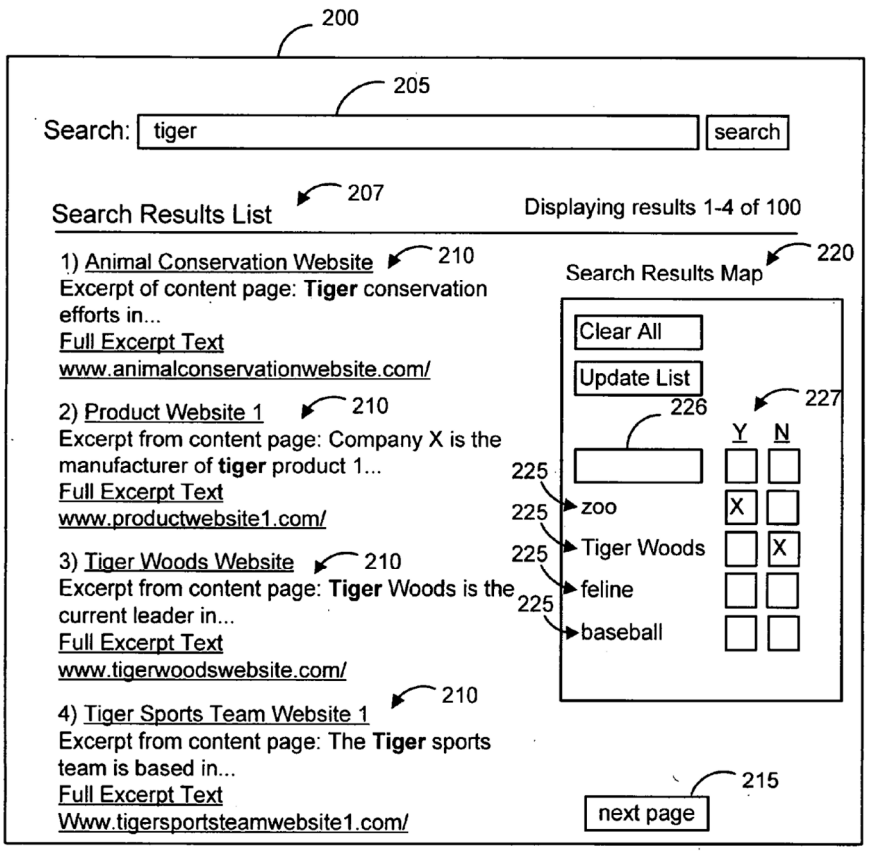


FIG. 2

(Stonehocker at Fig. 2.)

Prior art search engines also included the ability to filter search terms. Fast Search, for example, enabled a user to perform a search from the Fast Search homepage (a simple search), "then click on the 'Advanced Search' link and your query will be automatically transferred to the Advanced Search page." Hock at 106. Fast Search's advanced page (reproduced below) includes a series of word filters, which allow the user to indicate that a given term must be included ("=AND"), should be included ("=OR"), or must not be included ("=NOT").

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

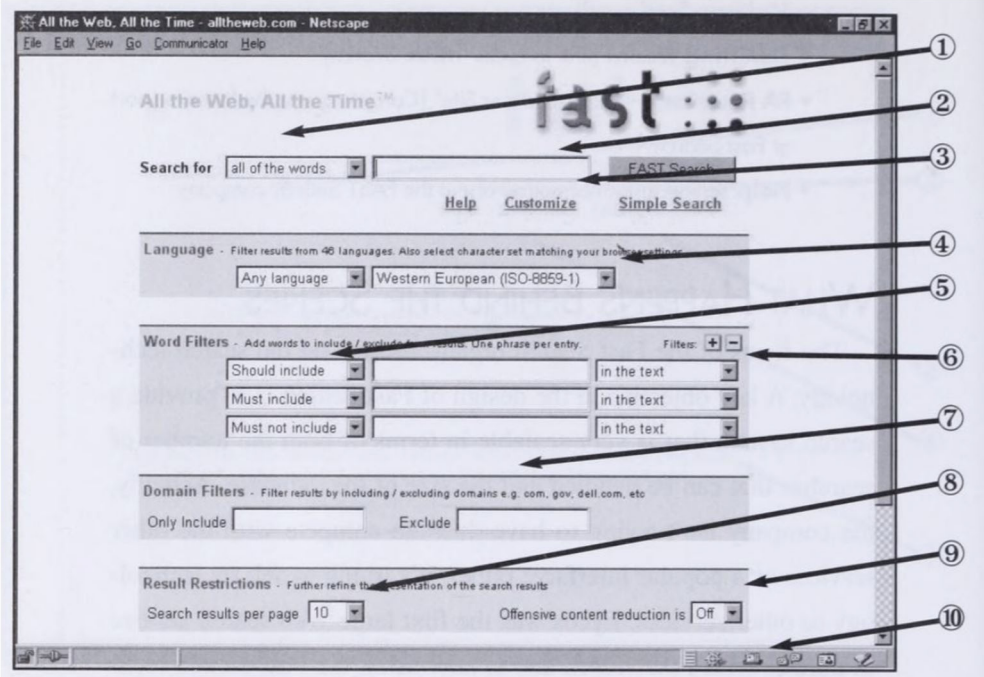


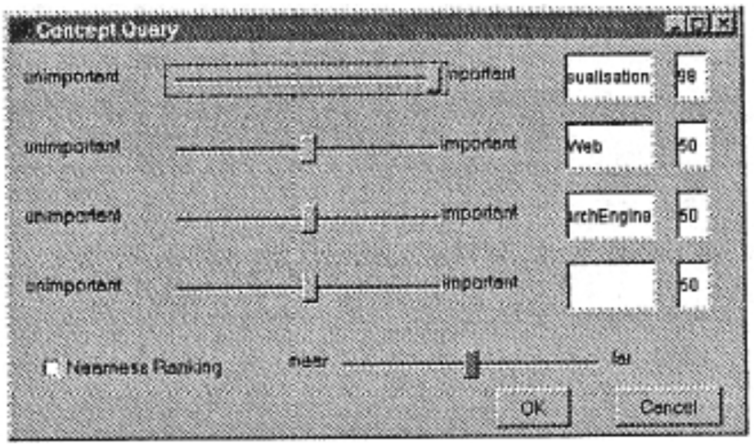
Figure 5.2 Fast Search's Advanced Search page

(Hock at 104.)

As a further example, the INSYDER system was an "information assistant for finding and analyzing business information from the Internet" that "us[ed] different agents for crawling the WWW, [and] evaluating and visualizing the results." "INSYDER - An Information Assistant for Business Intelligence," *Proceedings of the 23rd Annual International ACM SIGIR Conference on Research and Development in Information Retrieval*, Athens, Greece (July 24-28, 2000) ("INSYDER") at 1. INSYDER implemented a concept ranking agent that took "into account that the user might want to rank the documents found according to different weight of occurring concepts." *Id.* at 3. From the user query, "concepts are extracted and shown to the user with default weightings, which can be changed by users." *Id.* In the figure below, INSYDER shows an example where "[t]he user asked [] for the concepts of 'Visualization', 'Web' and 'SearchEngine'. Obviously the user is very much interested in the concept of 'Visualisation', giving this concept an 'important' value of 98, while the other two concepts are not seen as

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

important, both given a weight of 50." Mussler, "INSYDER - Information Retrieval Aspects of a Business Intelligence System," *Proceedings des 7. Internationalen Symposiums für Informationswissenschaft (ISI 2000)*, Darmstadt, Germany (Nov. 8-10, 2000) ("Mussler") at 136.



(Mussler at 132.)

Prior art search engine HotBot.com further included a type of filtering associated with search results. As described by Hock and illustrated in the figure above, HotBot defaulted to providing a single result from a given website ("Best Page Only"). *See* Hock at 127, 132. When additional results were available, users would see the text "See results from this site only" in the result grouping. Clicking on the click would update the search results website to show only results from the selected website, thus filtering out the results from any other website.

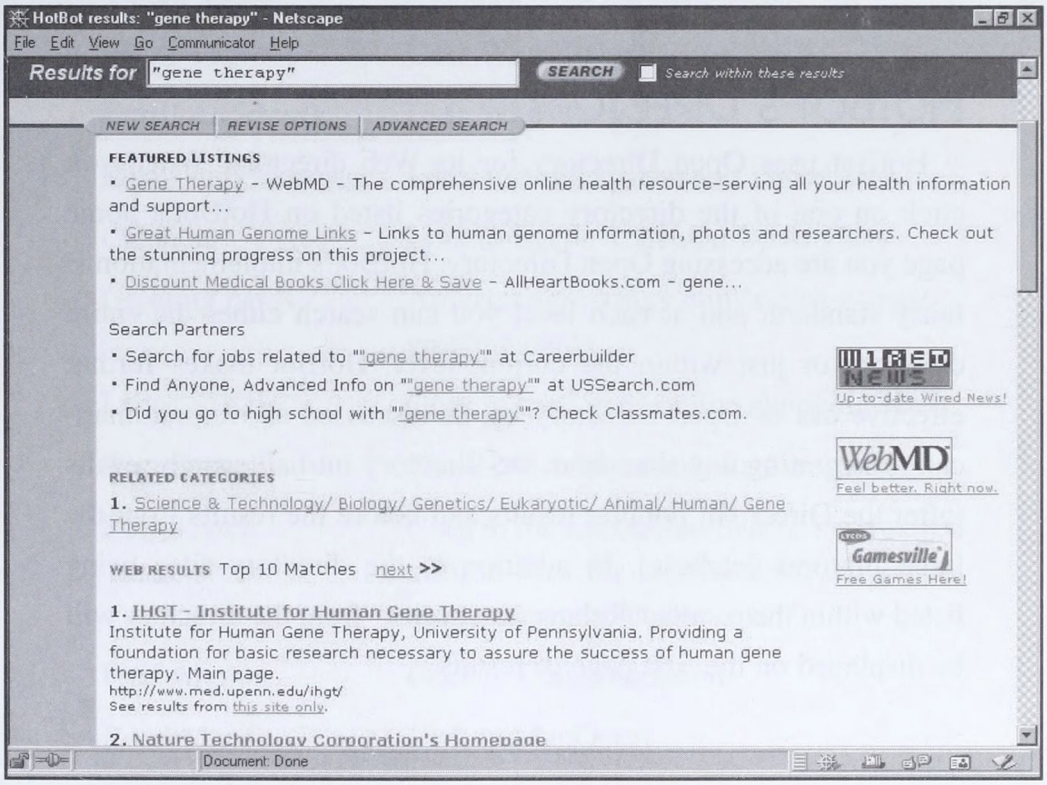


Figure 7.3 HotBot's results page

(Hock at Fig. 7.3 (133).)

E. Boolean Search Operators and Document Retrieval

The use of Boolean operators in Internet search engines was commonplace and well known prior to June 2011. Search engines commonly supported operators such as AND, OR, and NOT, which allowed users to specify logical relationships between query terms that documents would be required to satisfy in order to be returned as results. *See* Hock at 34. For example, in a system supporting the Boolean AND operator, a query such as "automobile AND sales" would retrieve only documents containing both terms. *Id.* Simplified Boolean syntax was also widely supported, including the use of a plus sign ("+") to designate required terms. *Id.* at 34, 66-67.

It was likewise well understood that search engines differed in how they interpreted queries that did not contain explicit Boolean operators. Some engines treated multi-term queries as implicit OR searches. *See* Hock at 86 ("If a string of terms is entered with no qualifiers (such

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

as Boolean operators), Excite will, in effect, 'OR' all of the words . . . ."). Others applied implicit AND logic. *See* Hock at 102 ("Fast Search indexes all terms . . . and for queries that contain no qualifiers, it will AND all of the terms that the user enters.").

By the late 1990s and continuing well before June 2011, many commercial search engines had adopted relevance-based ranking systems rather than strict Boolean filtering as their default mode of operation. These systems ranked results using statistical term-weighting techniques, including term frequency and inverse document frequency (TF-IDF), as well as related measures such as term rarity and number of query terms matched. *See* Hock at 28-29. Under such ranked retrieval systems, documents were scored and ordered by similarity to the query rather than filtered strictly according to Boolean inclusion rules. As a result, multi-term queries could yield a mixture of results, including documents containing all query terms and documents containing only some query terms, depending on their calculated relevance scores.

Certain search engines, such as Excite, further employed "concept-based" retrieval techniques. These systems expanded or weighted queries based on statistically related terms, enabling the retrieval of documents reflecting conceptual similarity even where not all literal query terms appeared in the document. *See* Hock at 87 (noting that use of Boolean operators would disable Excite's concept-based retrieval). Excite's advanced search interface also permitted users to designate query terms as "must have," "good to have," or "must not have," thereby allowing required and optional terms without the need for formal Boolean expressions. *Id.* (Fig. 4.2).

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

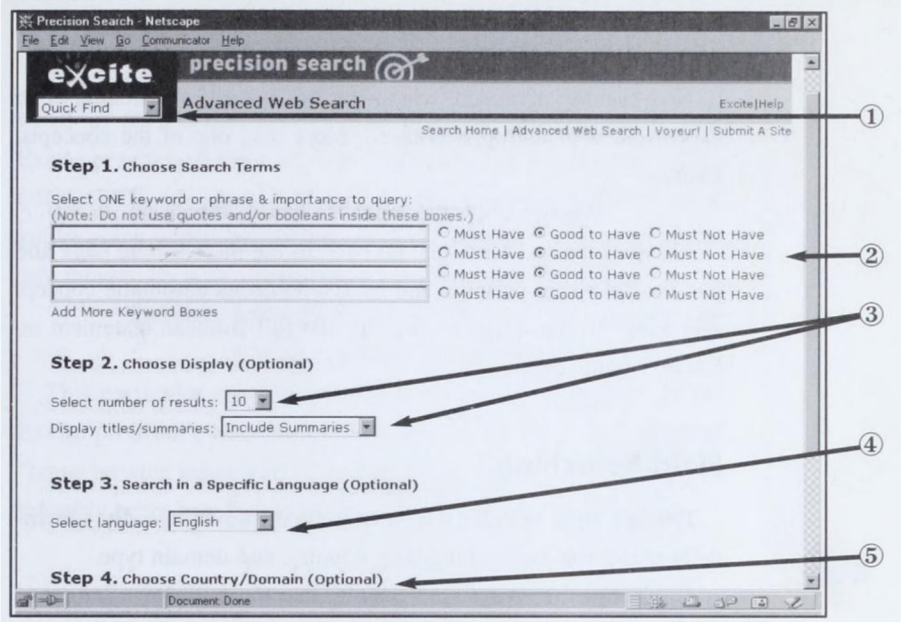


Figure 4.2 Excite's Advanced Search page

(Hock at Fig. 4.2 (87).)

Although relevance-based and concept-based retrieval had become widespread well before June 2011, Boolean operators continued to be a mechanism by which users could override ranked retrieval and require strict logical matching. It was known in the art that invoking Boolean operators in certain systems would disable relevance ranking or concept expansion and instead force results to conform strictly to the specified Boolean logic. *See* Hock at 35, 87 (noting that use of Boolean operators in the Excite homepage will turn off concept-based retrieval).

Accordingly, prior to June 2011, it was well known both how to implement search engines supporting Boolean operators and how such operators could be replaced by, or used to override, default relevance-based retrieval, resulting in different sets of returned documents.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

F. Displaying Advertisements Based on Search Terms

Certain limitations of the Patents-in-Suit recite the idea of displaying advertisements or sponsored content relating to the user's search terms alongside search results on a search results webpage. As with the conventional technologies for operating a search engine discussed above, these ideas related to online advertising in the search engine context were not novel by 2011. As Hock notes in his 2001 book on web search engines:

> Advertising on search engines is almost inevitable. For most companies that provide these search engines, advertising and licensing of their software provide the main revenue stream from search engine operations. (If you hadn't noticed it, the fact that the ads are related to your search topic isn't just an amazing coincidence. If you do a search for the word 'furniture,' an ad for a furniture store pops up. The advertiser has paid for that to happen. If you look at it from a positive perspective, this very targeted advertising can be beneficial to the consumer as well as the advertiser. . . .)

(Hock at 17-18.)

Hock's discussion of the major commercial search engines available at the time included a number of screenshots demonstrating the same type of keyword-related advertising that is claimed in the Patents-in-Suit. For example, a Yahoo! search for the term "cryptography" yields the results page below, which includes matching site results on the left side and a Barnes & Noble advertisement on the right side featuring a selectable link with the same search term.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

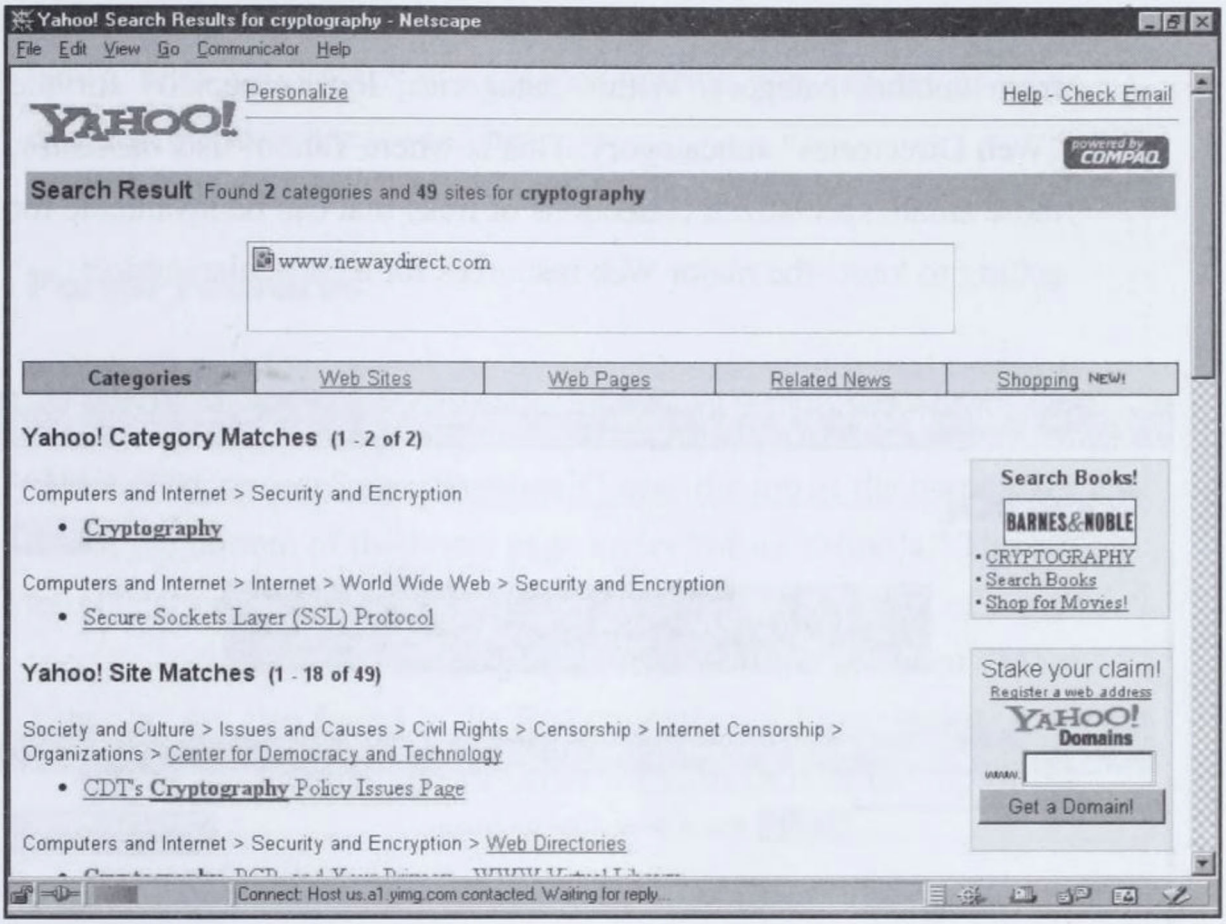


Figure 10.3 Yahoo!'s results page

(Hock at Fig. 10.3 (179).)

An Excite search for "laparoscopy" similarly shows a results page with an advertisement on the right side for Amazon featuring the same keyword as the user's search, presented as a selectable link.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

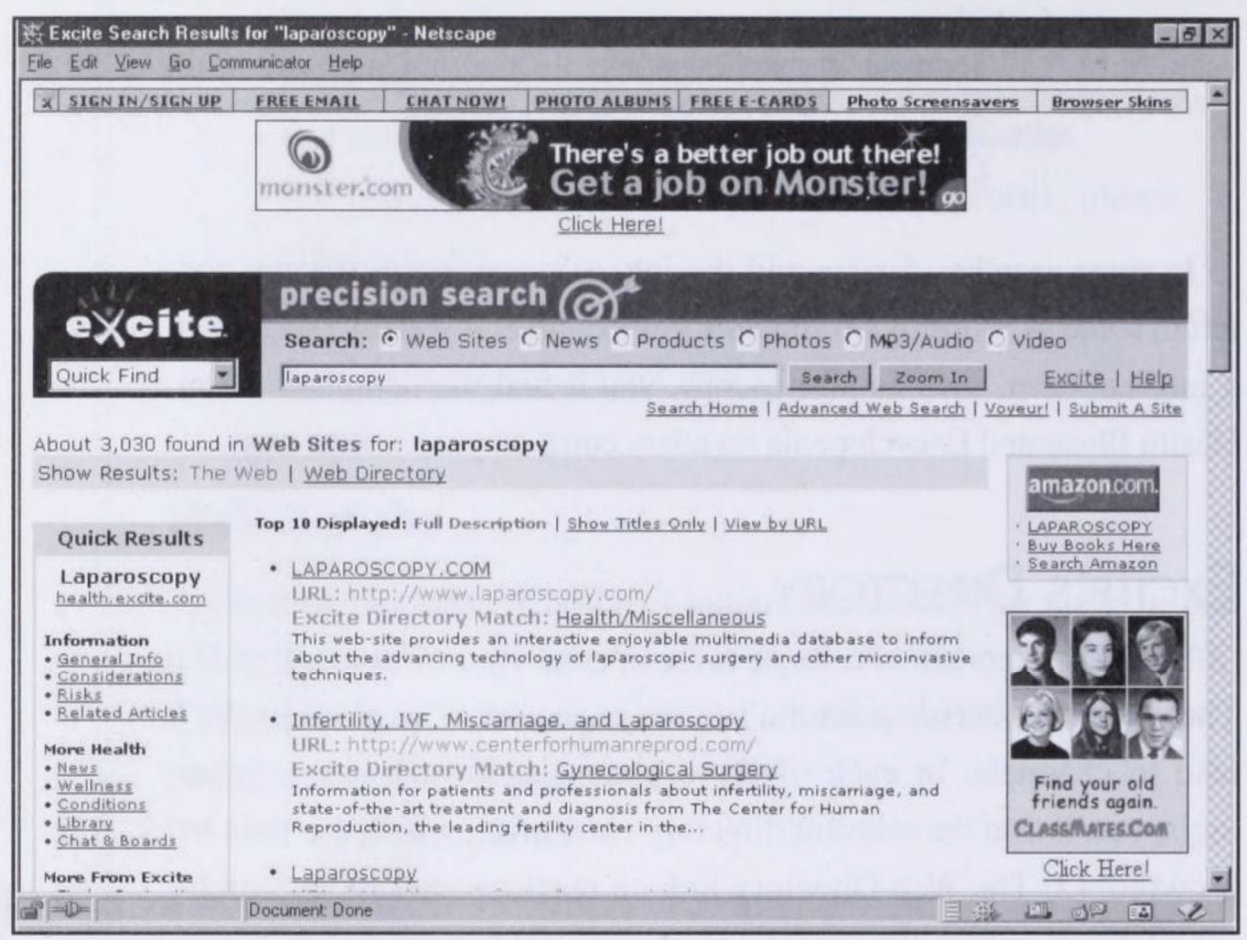


Figure 4.3 Excite's results page

(Hock at Fig. 4.3 (92).)

While the Yahoo! and Excite advertisements were displayed to the right of the search results, Hock illustrates that the positioning and format of ad content was varied, even in 2001. In the screenshot below, Hock illustrates a Lycos search results page corresponding to the search term "daimlerchrysler"—a well-known automotive brand. Preceding the search results are "Featured Listings," which a person of ordinary skill in the art would recognize as "sponsored content" relating to the user's search term. Hock explains that these paid listings are where "[c]ommercial sites pay [the search engine] to list their sites when specific terms are searched." Hock at 75. In this case, the featured listings include AutoTrader.com, a website for buying new

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

and used cars, a site for tips on buying Daimler Chrysler vehicles, and a site touting discounts on new Chrysler cars—all results clearly related to the user's search term.

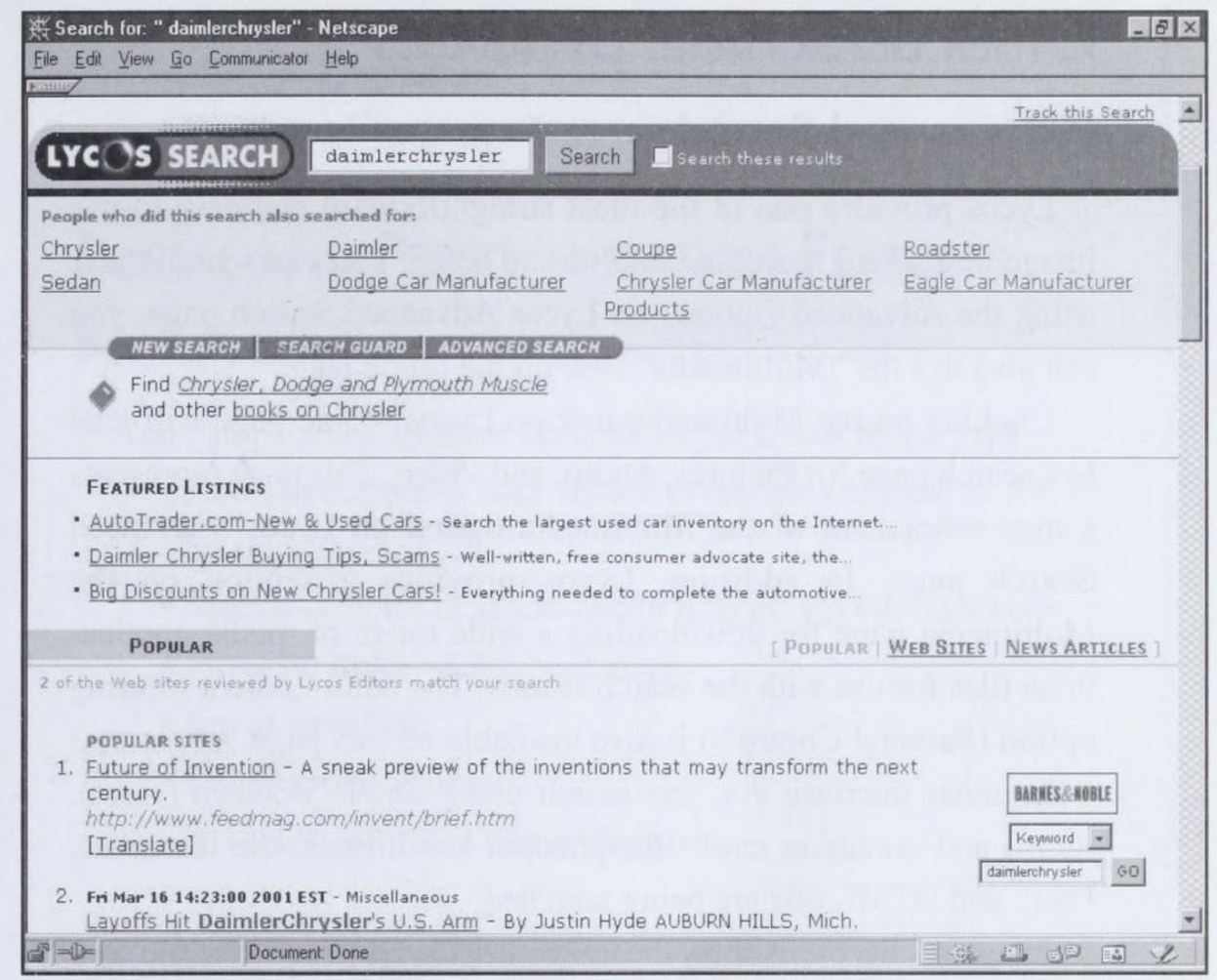


Figure 8.3 Lycos' results page

(Hock at Fig. 8.3 (147).)

As another example, U.S. Patent Application Publication No. 2009/0248511 by Mehta ("Mehta") discloses the idea of sponsored ad placement relative to a user's search results. Similar to Hock's Daimler Chrysler example above, Mehta offers the example of a user search for "toyota cars" resulting in the Yahoo! search results page below with sponsored ads both above and adjacent to the search results.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

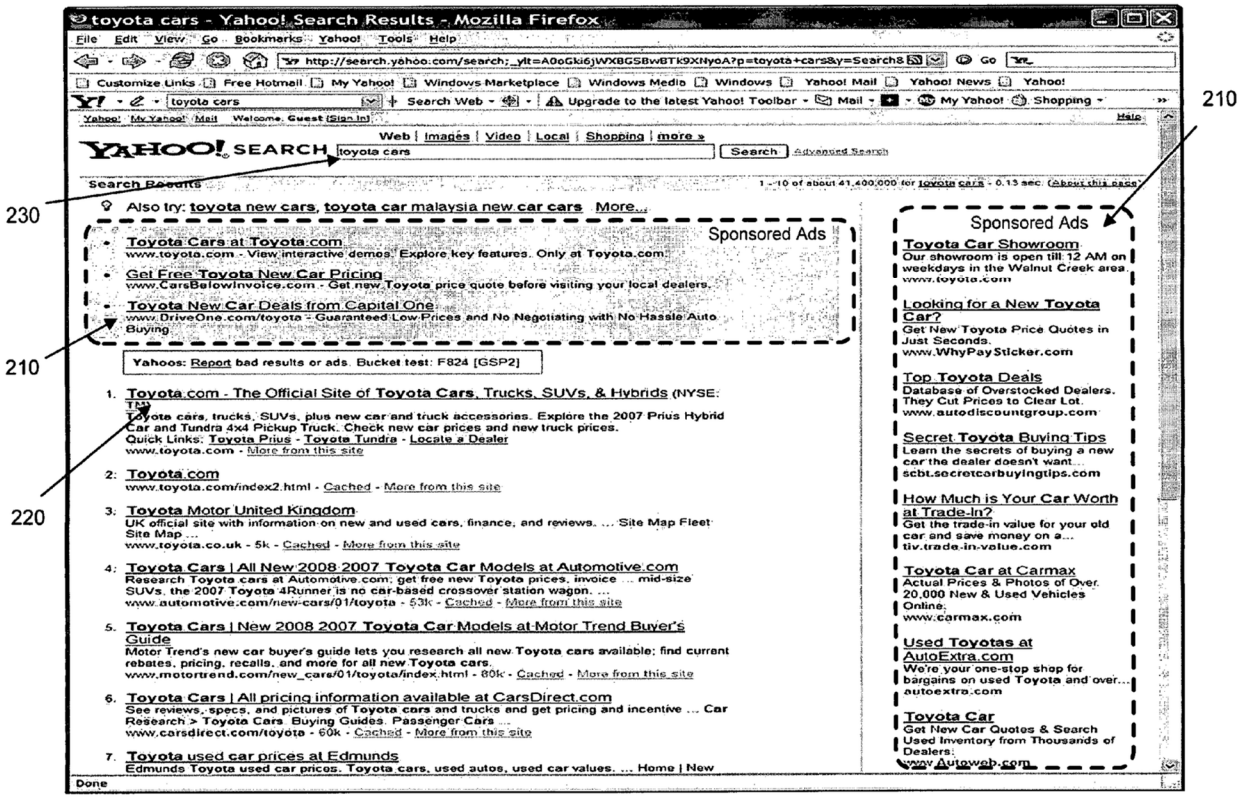


Figure 3A

(Mehta at Fig. 3A.)

Mehta explains that advertisers "lure a consumer to the advertiser's website . . . by strategically placing [an] advertisement in [a] search results webpage," (*id.* at [0005]) and that "advertisers define their advertisements based on one or more keywords that they believe will be used by consumers searching for products/services similar to the ones offered by the advertisers" (*id.*). Mehta and Hock both demonstrate that the claimed functionality relating to advertising content was also conventional and well-known in the prior art before the Patents-in-Suit.

G. Graphic Design/User Interface Elements

All of the Asserted Claims recite limitations directed to the placement and positioning of design elements relative to each other on the user's computing device screen. The arrangement of UI elements is not a technological advancement that constitutes an invention and is not patentable subject matter. Even if such design elements were subject to patent protection, the

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

specific features claimed by the Patents-in-Suit were already well-known in the art by June 2011.

As an initial matter, a person of ordinary skill in the art would have been familiar with prior art relating to user interface design in the context of web search engines, including the subject matter described in Marti Hearst's 2009 book, *Search User Interfaces*. *Search User Interfaces* includes a survey of known search engine user interface designs at the time and discusses the extensive body of academic work relating to this field of UI design. Hearst's book, along with its numerous cited publications and systems, demonstrate that the various UI elements included in the Asserted Claims were nothing but conventional design concepts or obvious variants thereof. Moreover, the technical ability required to implement any of these layouts would have been trivial by June 2011, as doing so could be accomplished easily through conventional coding techniques using, for example, cascading style sheets (CSS) and HTML. Each of the Patents-in-Suit includes claims directed to the idea of a search result "grouping" that contains information such as "title, an Internet link, an excerpt, or a URL," along with "an annotation." In some instances, the claims require the presence of multiple groupings, with each corresponding to a given search result. Discrete groupings of individual search results was, however, the default way of presenting search result information long before 2011. Hearst describes all of these features, noting that "[t]he most common way that search results are displayed is as a vertical list of information summarizing the retrieved documents" and that "[t]ypically, an item in the results list consists of the document's title . . . source (URL), . . . along with a brief summary of a relevant portion of the document." SUI at 5.1. Hearst further notes that "[a]n important property of modern Web search surrogates is the display of a summary that takes the searcher's query terms into account" (*id.* at 5.2.) and that "[h]ighlighting of query

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

terms has been found time and time again to be a useful feature for information access interfaces" (*id.* at 5.3.). Hearst notes that "[h]ighlighting can be done in boldface, reverse video, or more commonly today, by displaying a colored background behind each occurrence of a query term, assigning a different color to each term." *Id.* at 5.3.



(SUI at Fig. 5.1.)

Hearst identifies a prior art Google search results page from 2009 as an example of an interface with these features (*see* Fig. 5.1, *supra*), but these same UI features were present in numerous search results interfaces much earlier. *See generally* search interfaces in Sections IV.A-F, *supra*. For example, both the AltaVista and Northern Light search engines' results pages from 2001 include multiple search results groupings that contain title, URL, and excerpt information, as well as keyword annotations.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

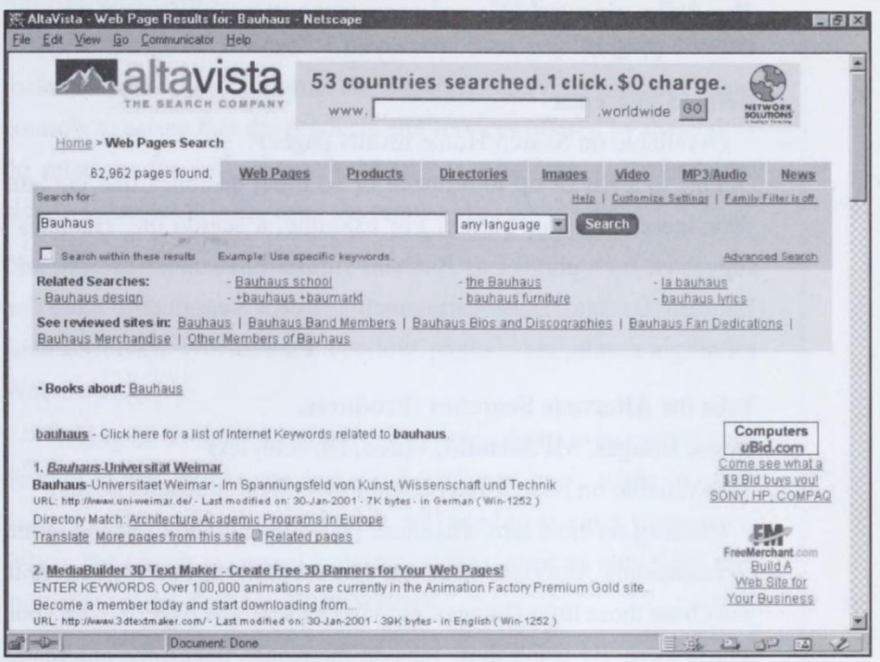


Figure 3.5 AltaVista's results page (Search Home mode)

(Hock at Fig. 3.5 (73).)

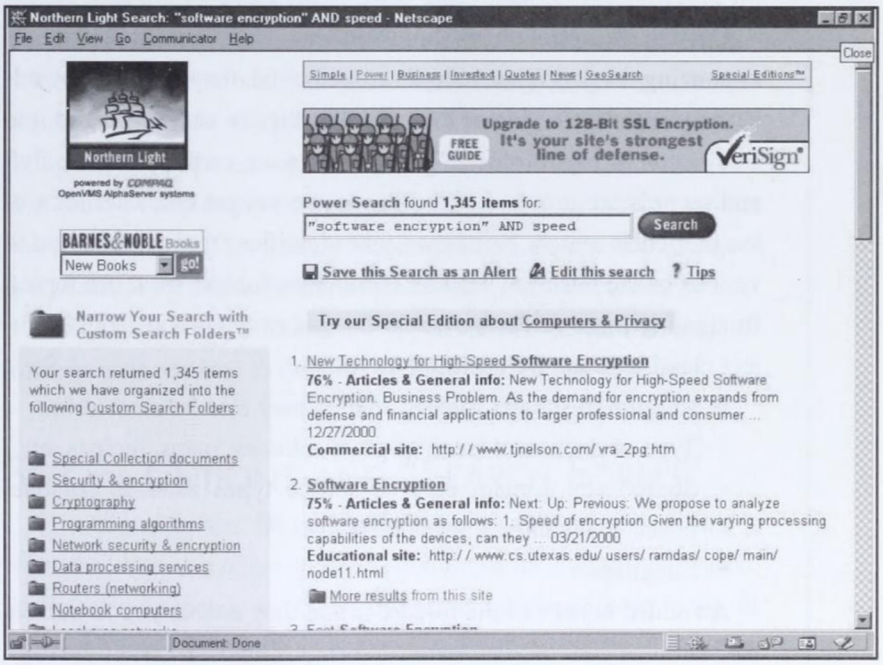
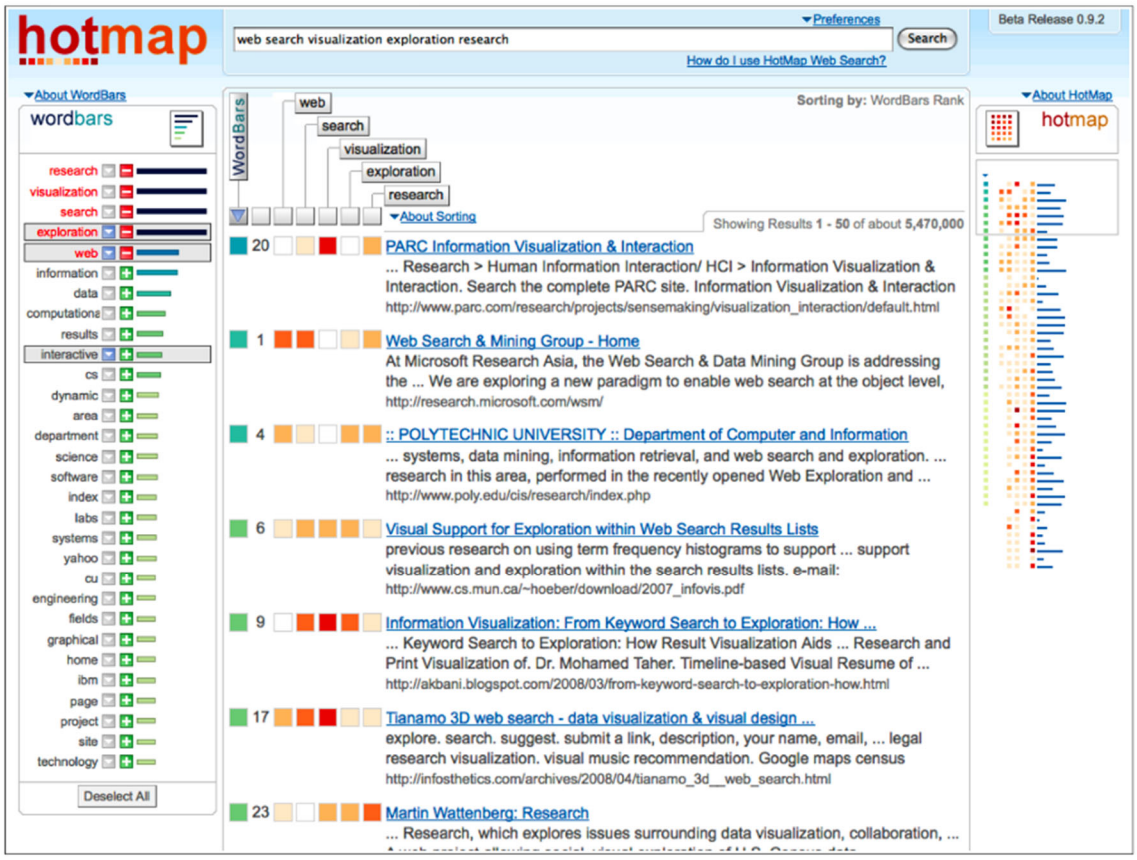


Figure 9.3 Northern Light's results page

(Hock at Fig. 9.3 (163).)

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

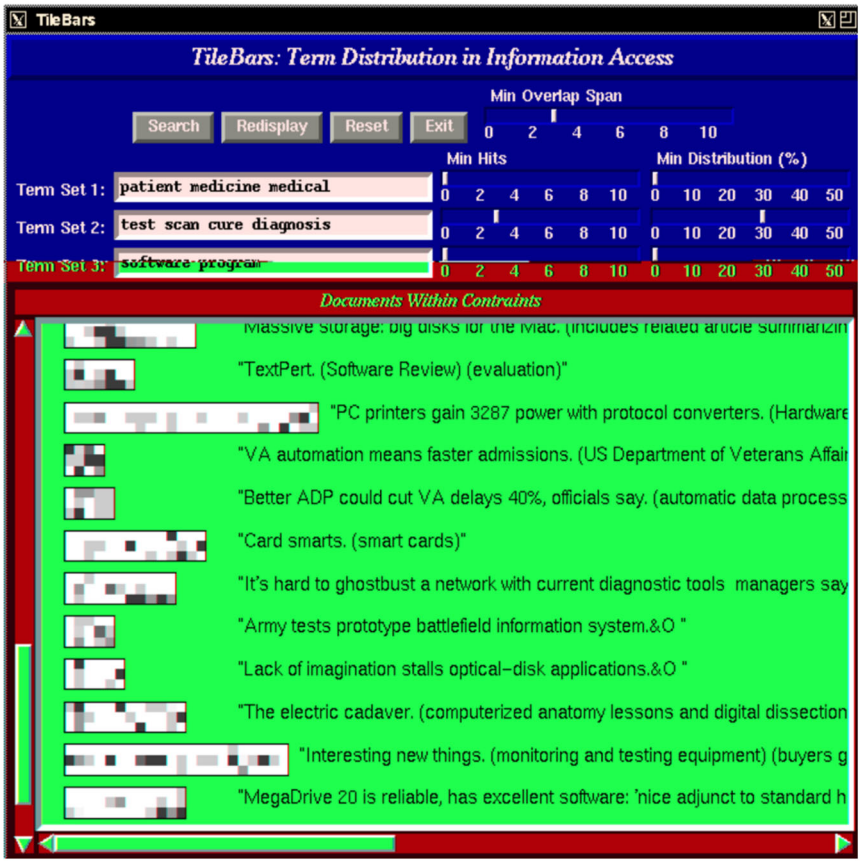
The HotMap system also included a search results page with title, URL, and excerpt information for each result presented as a discrete group. *See* Hoeber, "Lightweight Additions to the Web Search Interface Supporting Exploratory Web Search," *Second Workshop on Human-Computer Interaction and Information Retrieval (HCIR 2008)*, Redmond, Wash. (Oct. 23, 2008) ("Lightweight Additions") at Fig. 1 (2). The HotMap system further positioned color-coded squares corresponding to the user's search terms adjacent to each result grouping, with the color of the square indicating the prevalence of the term within the result (warmer colors indicating more hits, white indicating none). The HotMap's color coding of search terms allowed the user to quickly identify, for example, a first search result grouping containing all of the user's search terms and a second search result grouping that was missing one or more terms.



(Lightweight Additions at Fig. 1 (2).)

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

The HotMap System implemented annotations adjacent to each search results grouping, but it was hardly the first to do so. Marti Hearst's own TileBars system, discussed above in Section IV.B, provided the same UI layout in 1995, wherein the TileBars annotation appeared adjacent to document titles on a results page.



(Hearst 1995 at Fig. 4.)

Certain Asserted Claims alternatively claim the idea of positioning an annotation at the "bottom" of a search result grouping as "one or more standalone lines," but this too was a known (if not obvious) UI design choice by the filing of the Patents-in-Suit. For example, IBM's "BETA" system (2006) combined the well-known search engine result grouping discussed above with a standalone TileBars-style annotation placed at the bottom of such grouping. *See* Meredith & Pieper, "BETA: Better Extraction Through Aggregation," *Proceedings of the 29th Annual*

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR'06) Workshop on Faceted Search, Seattle, Wash., August 2006 ("Meredith") at 2; SUI at 11.1.



(SUI at Fig. 11.3.)

Finally, the Patents-in-Suit include Asserted Claims directed to the positioning of selectable advertisements relative to search result groupings. As illustrated in the figures reproduced above in Section IV.F, the idea of placing a selectable advertisement "adjacent to" a search result grouping was wholly routine by 2001, much less by June 2011. As Hearst explains, "[i]n most Web search engines, the search hits are shown in order of computed relevance to the

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

query," but "[i]n some cases, however, paid advertisements are shown at the top and/or to the side of search results." SUI at 5.4. For example, the Lycos and Excite search engine results pages discussed above each included selectable advertisements displayed as claimed. *See* Section IV.F, *supra*. So too did the prior art HotBot page, which features selectable advertisements (e.g., a WebMD advertisement) adjacent to search results for the query "gene therapy." Hock at 133.

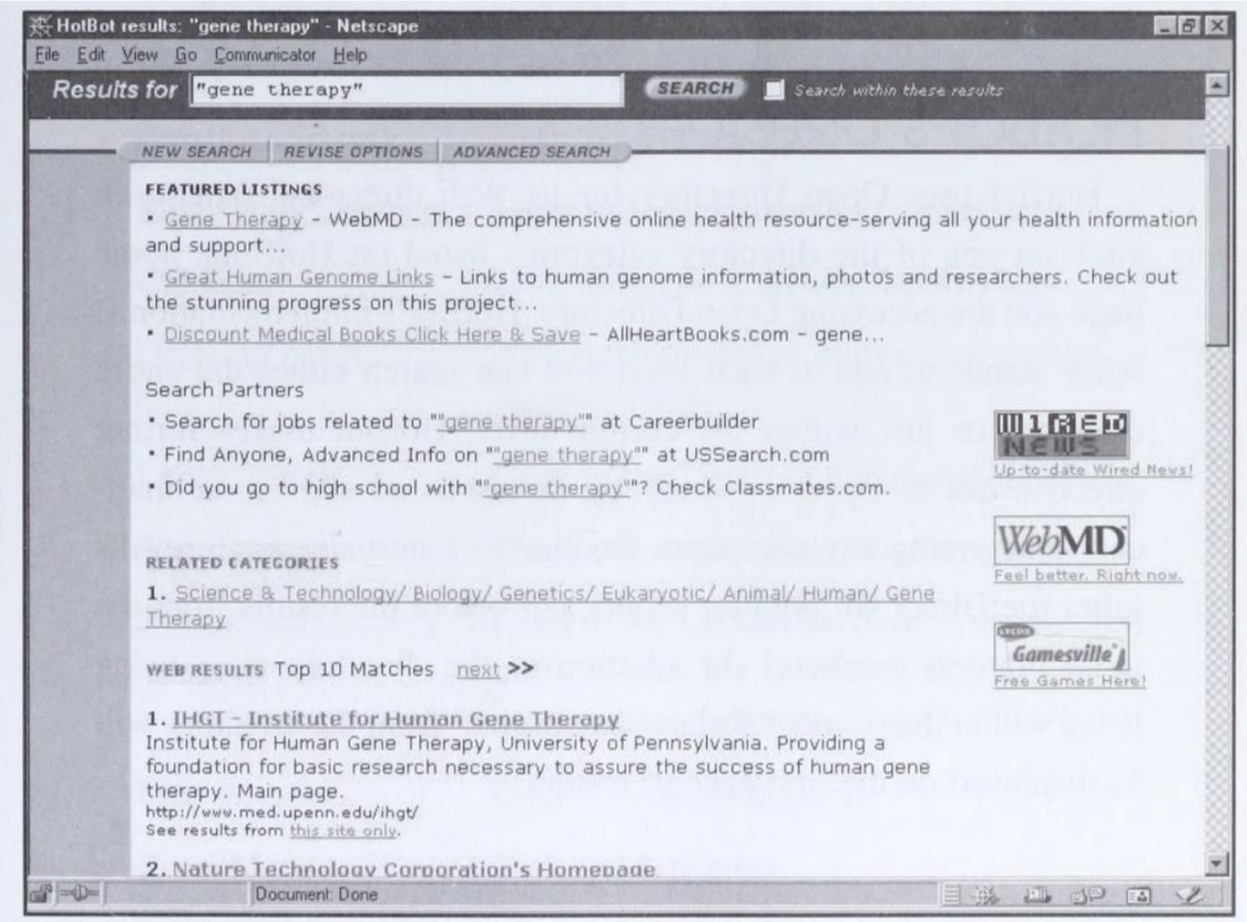


Figure 7.3 HotBot's results page

(Hock at Fig. 7.3 (133).)

V. INVALIDITY UNDER 35 U.S.C. § 112

A. § 112 ¶ 2: Indefiniteness

Under pre-AIA Section 112, paragraph 2, a patent's claims must "particularly point[] out and distinctly claim[] the subject matter which the applicant regards as the invention." 35 U.S.C.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

§ 112, ¶ 2.[2] As the Supreme Court has explained, "a patent must be precise enough to afford clear notice of what is claimed, thereby apprising the public of what is still open to them." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 909 (2014) (cleaned up). "A patent claim is indefinite if it fails to provide a person of ordinary skill in the art reasonable certainty regarding the scope of the claimed invention." *Synchronoss Techs., Inc. v. Dropbox, Inc.*, 987 F.3d 1358, 1366 (Fed. Cir. 2021); *see also In re Packard*, 751 F.3d 1307, 1310 (Fed. Cir. 2014) (a claim is indefinite "when it contains words or phrases whose meaning is unclear"). In the absence of reasonable certainty about the scope of claims, "competitors cannot avoid infringement, defeating the public notice function of patent claims." *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008); *see also All Dental Prodx, LLC v. Advantage Dental Prods.*, 309 F.3d 774, 779-80 (Fed. Cir. 2002) ("The primary purpose of the definiteness requirement is to ensure that the claims are written in such a way that they give notice to the public of the extent of the legal protection afforded by the patent, so that interested members of the public, *e.g.*, competitors of the patent owner, can determine whether or not they infringe.").

As the Supreme Court explained in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722 (2002), a patent claim "is a property right; and like any property right, its boundaries should be clear. This clarity is essential to promote progress, because it enables efficient investment in innovation. A patent holder should know what he owns, and the public should know what he does not." *Id.* at 730-31. Likewise, in *United Carbon Co. v. Binney &*

[2] Because the Asserted Patents issued from applications filed on or claiming priority to a date prior to the effective date of the America Invents Act (September 16, 2012), they are subject to the provisions of 35 U.S.C. § 112 predating the AIA amendments. All citations to § 112 herein therefore correspond to the pre-AIA version of the statute.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

Smith Co., 317 U.S. 228 (1942), the Supreme Court held that to uphold indefinite patent claims directly contravenes the public interest and discourages innovation:

> To sustain claims so indefinite as not to give the notice required by the statute would be in direct contravention of the public interest which Congress therein recognized and sought to protect. . . . The statutory requirement of particularity and distinctness in claims is met only when they clearly distinguish what is claimed from what went before in the art and clearly circumscribe what is foreclosed from future enterprise. A zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement claims would discourage invention only a little less than unequivocal foreclosure of the field.

Id. at 233-36.

The Asserted Claims are invalid as indefinite under 35 U.S.C. § 112, ¶ 2, because they fail to inform those of ordinary skill in the art, with reasonable certainty, about the scope of the alleged invention(s). For example, the following claim terms (and their closely related variants) in the Asserted Claims are indefinite, at least under Plaintiff's apparent view of the claim scope, rendering invalid all claims containing such terms, as well as their dependent claims:[3]

'959 patent:

- "transmitted information is suitable for display on a search results webpage on the computing device" (claims 1, 11);
- "wherein the annotation . . . provides an indication that the automatically annotated Internet search result is less relevant with regard to what the user seeks" (claims 1, 11, 20);
- "a font representing the text has been altered" (claims 5, 8, 15, 18, 24);

[3] Defendant notes that the attached claim charts identify disclosures in the prior art that correspond to limitations of the Asserted Claims, including in some cases for claim limitations or terms that are identified as indefinite. The identification of disclosures in the prior art for such limitations or terms should not be construed as a concession that Defendant believes those limitations satisfy the definiteness requirement of 35 U.S.C. § 112, ¶ 2, or inform POSITA of the metes and bounds of the full scope of the alleged invention with reasonable certainty. Rather Defendant's identification of disclosures in the prior art are based on its best understanding, without the benefit of claim construction, informed by Plaintiff's infringement contentions and in some cases were chosen because they most closely mirror embodiments in the specifications of the Asserted Patents and thus are likely to meet the disputed claim limitations in the event they are not adjudged to be indefinite.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

- "the text is shown with one or more lines merged with the text" (claims 5, 8, 15, 18, 24);
- "the text is shown with one or more lines superimposed thereupon" (claims 5, 8, 15, 18, 24);
- "the text is shown within a shaded area" (claims 5, 8, 15, 18, 24);
- "the text is shown with a reversed format" (claims 5, 8, 15, 18, 24);
- "wherein the annotation enables the user to reduce lost time, thereby speeding an Internet search process" (claims 10, 19, 25);
- "a computing device . . . enabled for communicating with a user and a remote server" (claim 20);
- "the computing device causes an Internet search to be performed" (claim 20).

'001 patent:

- "a font representing the text has been altered" (claims 12, 25);
- "the text is shown with one or more lines merged with the text" (claims 12, 25);
- "the text is shown with one or more lines superimposed thereupon" (claims 12, 25);
- "the text is shown within a shaded area" (claims 12, 25);
- "the text is shown with a reversed format" (claims 12, 25);
- "wherein the annotation enables the user to reduce lost time, thereby speeding an Internet search process" (claims 13, 26);
- "receiving module" (claim 14 and dependents) – subject to § 112(f); indefinite for lack of corresponding structure;
- "determining module" (claim 14 and dependents) – subject to § 112(f); indefinite for lack of corresponding structure;
- "annotating module" (claim 14 and dependents) – subject to § 112(f); indefinite for lack of corresponding structure.
- "advertising module" (claims 23-24) – subject to § 112(f); indefinite for lack of corresponding structure.

'184 patent:

- "by not opening the second webpage a faster execution is enabled for the Internet search process" / "thereby saving time and enabling a faster execution of the Internet search process" / "less time is wasted thereby enabling faster execution of the Internet search process" / "by not opening the respective referenced webpage a faster execution is enabled for the Internet search process" / "not selecting the first search result will speed the Internet search process by reducing wasted time" (claims 1, 7, 12, 17, 19);
- "performing AND operations according to search logic guidelines published by the search engine provider" / "for performing AND operations according to published search logic guidelines" (claims 7, 12, 17, 19);
- "contrary to the search logic guidelines for AND operations published by the search engine provider" / "contrary to the published search logic guidelines for AND operations" (claims 7, 12, 17, 19);

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

- “a font representing the text has been altered” (claim 18);
- “the text is shown with one or more lines merged with the text” (claim 18);
- “the text is shown with one or more lines superimposed thereupon” (claim 18);
- “the text is shown within a shaded area” (claim 18);
- “the text is shown with a reversed format” (claim 18).

’937 patent:

- “a font representing the text has been altered” / “a font representing the first text or second text has been altered” (claims 3, 17, 31);
- “the text is shown with one or more lines merged with the text” / “the first or second text is shown with one or more lines merged with the text” (claim 3, 17, 31);
- “the text is shown with one or more lines superimposed thereupon” / “the first or second text is shown with one or more lines superimposed thereupon” (claim 3, 17, 31);
- “the text is shown within a shaded area” / “the first or second text is shown within a shaded area” (claim 3, 17, 31);
- “the text is shown with a reversed format” / “the first or second text is shown with a reversed format” (claim 3, 17, 31);
- “wherein the personal computing device is a smartphone with a smaller display screen than a laptop, desktop, or tablet computer's display screen, and wherein the updated Internet search user interface enables the smaller display screen to display an increased number of Internet search results that each reference a webpage containing the first search term element compared with the Internet search user interface prior to the selection of the filtering option, without being scrolled by the search engine user, thereby further speeding the search engine user's operation of Internet search” / “wherein the personal computing device is a smartphone with a smaller display screen than a laptop, desktop, notebook, or tablet computer's display screen, and wherein the first and second updated Internet search user interfaces enable the smaller display screen to display an increased number of Internet search results that each reference a webpage containing the first or second search term elements, respectively, compared with the Internet search user interface prior to the selection of the first or second filtering option, respectively, without being scrolled by the search engine user, thereby further speeding the search engine user's operation of Internet search” (claims 6, 8, 10, 20, 22, 24, 34, 36)

Defendant’s analysis of the Asserted Patents and Asserted Claims is ongoing. Defendant accordingly reserves the right to supplement this disclosure with additional bases for invalidity based on indefiniteness as that analysis progresses.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

B. §112 ¶ 1: Lack of Written Description

The Asserted Claims recite limitations that were already well known in the prior art (and therefore are anticipated and obvious). If the claims are construed to recite some novel limitation or combination of limitations, however, then the Asserted Patents fail to describe or enable that limitation or combination, including how it differs from what was already known.

Section 112 "contains a written description requirement separate from enablement." *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010). The written description requirement requires that "the disclosure of the application relied upon reasonably convey[] to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date." *Id.* Indeed, "the specification must describe an invention understandable to [a] skilled artisan and show that the inventor actually invented the invention claimed." *Id.*

In addition to the written description requirement, Section 112 imposes an enablement requirement, which is satisfied only when "one skilled in the art, after reading the specification, could practice the claimed invention without undue experimentation." *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 999 (Fed. Cir. 2008). Further, "[t]he full scope of the claimed invention must be enabled," and "[a] patentee who chooses broad claim language must make sure the broad claims are fully enabled." *Id.* Indeed, the Supreme Court has recently confirmed that a patent's specification "must enable the full scope of the invention as defined by its claims" and that "[t]he more one claims, the more one must enable." *Amgen Inc. v. Sanofi*, 598 U.S. 594, 610 (2023). Thus, for example, "[i]f a patent claims an entire class of processes, machines, manufactures, or compositions of matter, the patent's specification must enable a person skilled in the art to make and use the entire class." *Id.*

At least the following claims of the Asserted Patents are invalid for failure to comply with the written description and/or enablement requirement of 35 U.S.C. § 112, ¶ 1, because the

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

specifications of the Asserted Patents fails to reasonably convey to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date, and fail to enable the full scope of the invention as defined by the claims (as reflected, e.g., in AccuSearch's overbroad infringement contentions):

'959 Patent: claims 1-8, 10-25.

For example, the '959 Patent includes system, method, and apparatus claims that each recite limitations directed to the "automatic" performance of an Internet search, "automatic" annotation of Internet search results, and "automatic" placement of an annotation in a search result grouping, yet the specification fails to describe this functionality such that one of ordinary skill in the art would have understood the applicant was in possession of the claimed invention. While the patent claims these "automatic" processes, it provides no working examples of how such a system would go about conducting an Internet search, how it would assessing the presence or absence of search terms in a results set, how or where it determine to apply annotations in the search results, or how search results would be generated and grouped to include such annotations. *See Brita LP v. Int'l Trade Comm'n*, No. 2024-1098, slip op. at 8 (Fed. Cir. Oct. 15, 2025) ("A 'mere wish or plan' for obtaining the claimed invention is not adequate written description.") (citing *Regents of the Univ. of Cal. v. Eli Lilly & Co.*, 119 F.3d 1559, 1566 (Fed. Cir. 1997)). The specification's mere indication that these processes occur fails to inform a person or ordinary skill in the art that the inventor was in possession of these features.

The patent claims directed to filtering similarly lack written description because the specification provides no teaching of how to implement such a filtering technique (e.g., how search results would be "removed from being displayed on the search results webpage" in response to a user selecting a filtering function).

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

The ’959 Patent’s claims directed to providing annotations based on the presence or absence of search terms in “one or more descendant webpages of the referenced webpage” are also invalid for lack of written description. The specification provides no working examples of *how* a descendant webpage may be analyzed to identify the presence or absence of search terms, indicating only that “a software program with Internet access” “[a]utomatically visit[s] each descendent webpage . . . [,] determine[s] which specified search term elements, if any, are present in the descendent webpage” and “[a]utomatically annotate[s]” “search result groupings . . . containing a Level-1 URL link” “to additionally include descendent page URL links to indicate which search term elements are present in each descendent webpage and which are not present.” ’959 Patent, Fig. 9, 12:23-32. While the patent alludes to a “software program” that performs this functionality with respect to descendant webpages, it offers no explanation for *how* the software does this beyond stating that it occurs “automatically.” *Id.* These disclosures would fail to indicate to a person of ordinary skill in the art that the inventor was in possession of the claimed invention.

The specification similarly fails to disclose any specific technique for “wherein the annotation . . . provides an indication that the automatically annotated Internet search result is less relevant with regard to what the user seeks” as claimed. The ’959 Patent claims this process without providing any explanation or working examples of *how* a determination is made as to whether or not a particular result is in fact less relevant to the user. The specification thus fails to indicate to a person of ordinary skill in the art that the inventor was in possession of the invention claimed.

’001 Patent: claims 1-3, 5-16, 18-26.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

For example, the ’001 Patent recites limitations directed to a search engine that “generates, based at least in part on the supplied search term elements, at least one Internet search result referencing webpage,” that “determines whether to generate an annotation,” and “if it is determined to generate the annotation for the Internet search result, causing the annotation to be displayed adjacent to or within the Internet search result grouping on the search results webpage.” ’001 Patent, Claim 1; *see also id.* claim 14 (reciting “modules” for performing these steps). While the patent claims “generating a search result referencing webpage” based on user-supplied search terms, the specification provides no explanation of how this may be accomplished, indicating only that a “user performs [] a normal web search.” *See, e.g.*, *id.* at 11:47-48, 11:62-63, 12:17-18, 12:52-53, Figs. 8A-8B, 9-10. The specification’s description of a user performing a “normal web search” would fail to indicate to a person of ordinary skill in the art that the inventor was in possession of an invention for generating a web page in response to search terms, as claimed.

The specification similarly fails to disclose any specific technique for “determin[ing] whether to generate an annotation” or “causing an annotation to be displayed adjacent to or within the Internet search result grouping on the search results webpage,” as claimed. Like the ’959 Patent, the ’001 Patent claims these processes without providing any explanation or working examples of *how* a determination to make such annotations would be made or how the claimed method would “cause” the annotations to be displayed in the configuration described. The specification thus fails to indicate to a person of ordinary skill in the art that the inventor was in possession of the invention claimed.

The ’001 Patent further recites claims directed to a selectable filter for causing search results whose referenced webpages are missing at least one search term to be removed from

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

being displayed on the search results webpage. *See* '001 Patent, Claims 9, 22. As with the '959 Patent, the filtering claims similarly lack written description because the specification provides no teaching of how to implement such a filtering technique that would cause the results to be removed from the webpage display as claimed.

The '001 Patent's claims directed to determining whether to generate annotations based on the presence or absence of search terms in "one or more descendant webpages of the referenced webpage" are likewise invalid for lack of written description. The specification provides no working examples of *how* a descendant webpage may be analyzed to identify the presence or absence of search terms, indicating only that the "a software program with Internet access" "[a]utomatically visit[s] each descendant webpage . . . [,] determine[s] which specified search term elements, if any, are present in the descendent webpage" and "[a]utomatically annotates" "search result groupings . . . containing a Level-1 URL link" "to additionally include descendent page URL links to indicate which search term elements are present in each descendent webpage and which are not present." '001 Patent, Fig. 9, 12:19-33. While the patent alludes to a "software program" that performs this functionality with respect to descendant webpages, it offers no explanation for *how* the software does this beyond stating that it occurs "automatically." *Id.* at 12:24-33. These disclosures would fail to indicate to a person of ordinary skill in the art that the inventor was in possession of the claimed invention.

Claims 10-11 and 23-24 are further invalid for lack of written description because these claims require that the "sponsored links are related to one or more of the supplied search terms" or are "related to the at least one search term element missing in the Internet search result's referenced webpage," but the specification provides no disclosure explaining how sponsored links may relate to a user's supplied search terms. *See* '001 Patent at 7:28-29, 7:31-32, 7:36-37,

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

8:39 (referencing sponsored links only for the purpose of categorizing webpages); *id.* at 1:50-52, 2:13-16, 2:51-55 (referencing advertising on webpages generally). None of the specification's disclosures would indicate to a person of ordinary skill in the art that the inventor was in possession of the claimed invention wherein sponsored links are related to supplied and/or missing search terms, and the claims are accordingly invalid for lack of written description.

'184 Patent: claims 1-22.

For example, the '184 Patent claims a method include the step of "generating a plurality of search results based on at least in part the submitted first search request, wherein the plurality of search results is comprised of: (i) a first type of search result which references a first webpage that contains all submitted search elements; and (ii) a second type of search result which references a second webpage that is missing at least one submitted search term element." Variations of this method are claimed as system claims 7 and 17. As discussed above with reference to the '001 Patent, the common specification to the Patents-in-Suit does not describe *how* Internet search results are generated in response to the submission of search terms, merely stating that the "user performs a normal web search." The specification offers no explanation of how user-submitted search terms might result in a search engine producing two types of results and would thus fail to indicate to a person of ordinary skill in the art that the inventor was in possession of what is claimed.

The '184 Patent includes claims directed to filtering, descendant webpages, and advertisements that lack written description for the same exemplary reasons as discussed above for the '001 Patent.

The '184 Patent further includes claims directed to the effect of filtering on the display of search results when viewed on devices with smaller screens. *See* '184 Patent, Claims 4, 9, 14, 22.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

Each of these claims further lacks written description because the specification does not address the idea of increasing the display capacity of smaller screen devices, whether through filtering or other means. While the patent explains that the annotation style of Figure 4 utilizes more space than that of Figure 3, this is only because Figure 4 displays result categories below a given grouping, as opposed to the more compact grouping of Figure 3. '184 Patent at 9:3-16 & Figs. 3-4. These figures do not relate to the removal of a search results grouping as a result of filtering, as claimed. Accordingly, the specification lacks written description that would indicate to a person of ordinary skill in the art that the inventor was in possession of these claimed features.

'937 Patent: claims 1-39.

For example, claims 1, 15, 29 and their dependents are invalid for lack of written description. Each includes limitations wherein user selection of a filtering option "causes an updated Internet search user interface to be generated and provided for display on the personal computing device, and wherein the updated Internet search user interface does not display the first Internet search result." As discussed above, the common specification of the Patents-in-Suit includes no explanation or examples for how the search results webpage is generated initially, much less in response to the user selection of a filtering feature. There is no teaching of how a search results webpage, already populated with search grouping, could be generated again so as to remove a search result. The specification's mere mention of the idea of filtering would fail to indicate to a person of ordinary skill in the art that the inventor was in possession of the claimed invention.

The '937 Patent further includes claim limitations similar to those discussed above as to the '959, '001, and '184 Patents. Defendant contends that these analogous limitations of the '937 Patent as invalid for lack of written description for the same reasons discussed above.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

Defendant's analysis of the Asserted Patents and Asserted Claims is ongoing. Defendant accordingly reserves the right to supplement this disclosure with additional bases for invalidity based on lack of written description and/or enablement as that analysis progresses.

VI. INVALIDITY UNDER 35 U.S.C. § 101

Section 101 of the Patent Act has long had an important implicit exception, that "[l]aws of nature, natural phenomena, and abstract ideas are not patentable." *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014). In *Mayo Collaborative Servs. v. Prometheus Labs., Inc.* and *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, the Supreme Court established a two-step framework for applying this exception to § 101 patent eligibility. *Alice*, 573 U.S. at 217-18; *see also Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71-79 (2012).

The first step is to "determine whether the claims at issue are directed to one of those patent-ineligible concepts"—laws of nature, natural phenomena, or abstract ideas. *Alice*, 208 U.S. at 217; *see Mayo*, 566 U.S. at 77-79. The Federal Circuit, applying the two-step framework for patent-eligibility under *Alice*, has explained that "[r]egardless of what statutory category . . . a claim's language is crafted to literally invoke," it is necessary to "look to the underlying invention for patent-eligibility purposes." *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1374 (Fed. Cir. 2011). In other words, the claims may be "[s]tripped of excess verbiage," *Intellectual Ventures I LLC v. Cap. One Fin. Corp.*, 850 F.3d 1332, 1339 (Fed. Cir. 2017), so that the claimed invention may be viewed in its "simplest form," *Dealertrack, Inc. v. Huber*, 674 F.3d 1315, 1333 (Fed. Cir. 2012). *See also Intellectual Ventures I LLC*, 850 F.3d at 1340 (concluding that claims were, "at their core," directed to abstract idea); *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1256 (Fed. Cir. 2016) ("Stripped of excess verbiage, claim 1 is directed to . . . ."); *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016) ("[W]e have described the first-stage inquiry as looking at the focus of the claims,

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

their character as a whole[.]") (cleaned up). "[W]ell-established, fundamental concepts fall within the category of abstract ideas." *Cyberfone Sys., LLC v. CNN Interactive Grp., Inc.*, 558 F. App'x 988, 991 (Fed. Cir. 2014).

If the claims are directed to a patent-ineligible concept, the second step of the patent-eligibility inquiry is to ask "what else is there in the claims"? *Alice*, 573 U.S. at 217; *Mayo*, 566 U.S. at 78. This second step is a search for an "inventive concept," that is, "an element or combination of elements that is 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself.'" *Alice*, 573 U.S. at 217-18; *Mayo*, 566 U.S. at 71-73. "A claim that recites an abstract idea must include 'additional features' to ensure 'that the claim is more than a drafting effort designed to monopolize the abstract idea.'" *Alice*, 573 U.S. at 221; *see also Mayo*, 566 U.S. at 77. "Simply appending conventional steps, specified at a high level of generality, [is] not enough to supply an inventive concept." *Alice*, 573 U.S. at 222 (cleaned up); *see also Mayo*, 566 U.S. at 82. For example, "mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention," because "[g]iven the ubiquity of computers, wholly generic computer implementation is not generally the sort of additional feature that provides any practical assurance that the process is more than a drafting effort designed to monopolize the abstract idea itself." *Alice*, 573 U.S. at 223-24 (cleaned up). In other words, merely adding "purely functional and generic" components to a claim's recitation of a computer-implemented invention does not "transform an abstract idea into a patent-eligible invention" because "[n]early every computer will include [components] capable of performing the basic [] functions required by the [] claims." *Alice*, 573 U.S. at 226. It is also not enough to "limit[] an abstract idea to one field of use," or add "token postsolution components," *Bilski v. Kappos*, 561 U.S. 593, 610-12 (2010), or

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

"limit[] the use of an abstract idea to a particular technological environment," *Alice*, 573 U.S. at 223 (cleaned up).

The Asserted Claims fail the Supreme Court's two-step test for patent-eligibility and are therefore patent-ineligible under Section 101. At step one, the Asserted Claims are all directed to abstract ideas, and employ generic, functional, and results-oriented language that recites no specific technological solution for achieving their desired functional results or any improvement in the underlying computer system. The Asserted Claims of the Asserted Patents (which share a common specification and are part of the same family) are directed to the abstract idea of noting where search results omit terms from a query. The Asserted Claims implement this idea using wholly generic, off-the-shelf technology—a computer and the internet. The claims do not transform that technology, but rather, use it to carry out the core abstract concept of noting omitted information. And the limitations of the Asserted Claims—considered individually or in ordered combination—merely add post-functional details regarding the display and content of the annotated results.

Critically, neither the claims nor the specification provide any explanation as to how the search is conducted, the annotations generated, or the results transmitted to the user. They simply recite the outcome. The claims instead describe, in purely functional terms, steps such as "receiving" a search request, "causing" a search to be performed, and then "transmitting . . . [an] automatically annotated" result in response. '959 patent at 15:37-48. The Asserted Claims do not even describe how the annotations are created, aside from noting that their generation is "automatic."

The Asserted Patents' failure to specify how the annotations are generated is particularly striking given that annotations are central to the purported invention. The '959 patent purports to

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

recite "[a] method for providing annotated Internet search results suitable for display to a user[.]" '959 patent at 15:37-40. Yet the patents are silent as to any mechanism or algorithm for producing those annotations. The Patents do not, for example, specify how the keywords are processed, how the keywords should be considered for omission, or how the search results themselves are generated on the results page. They merely note the "automatic" result.

At step two, the Asserted Claims fail to recite any inventive concept sufficient to transform the abstract idea into a patent-eligible invention. The elements of the Asserted Claims, whether viewed individually or as an ordered combination, were all well understood, routine, and conventional as of the applicable priority date. The Asserted Claims recite two non-specific technological devices: "a computing device" and "an Internet," both described in wholly generic terms. The claims and specification make clear that they are conventional, off-the-shelf technology. *See, e.g.*, '959 patent at 5:12-15 (describing the "computing device" as "including for example a desktop, laptop, notebook computer, smart phone, tablet computer, etc."); *id.* at Fig. 1 (depicting a "[t]ypical [s]earch [e]ngine"). And the Asserted Claims do nothing transformative with this technology: after "receiving a search request," *id.* at 15:40, an "Internet search" is "performed," *id.* at 15:43, and "automatically annotated" search results are then "transmitt[ed]" to the device, *id.* at 15:46-48. Merely reciting "automatic[]" annotation of search results does not improve search technology—it simply uses extant search technology and adds "insignificant postsolution activity." *Bilski v. Kappos*, 561 U.S. 593, 610-11 (2010).

The specification confirms that the purported invention lacks "the specificity required to transform [the] claim from one claiming only a result to one claiming a way of achieving it." *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1167 (Fed. Cir. 2018). Indeed, the specification fails to provide any technological—let alone inventive—explanation for how to conduct the

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

search, generate the results, analyze the corresponding webpages, create the annotations, or filter the annotated results. Meanwhile, it reiterates in several places that the purported improvement is directed to the user's experience —claiming, for example, to "save users valuable time and avoid frustration" and to "mak[e] the user experience more positive[.]" '959 patent at 2:65-3:03; *id.* at Abstract (similar); *see also id.* at 1:51-52 (similar); 2:03-05 (similar). But, like the Asserted Claims themselves, the specification fails to describe how those purported enhancements are actually implemented at the technological level. Instead, the specification simply recites the desirable end-result of a "more positive" user experience—precisely the type of patent held ineligible for protection under longstanding precedent.

Defendant incorporates herein by reference its pleadings in support of its pending motion to hold the patents ineligible under Section 101 [D.I. 26, 44]. Defendant further reserves the right to supplement and/or modify these contentions regarding patent-ineligibility, including specifying additional and/or different representative claims, elaborating on the abstract idea to which the Asserted Claims are directed, and further explaining how the Asserted Claims include no more than well understood, routine, and conventional features that do not suffice as an inventive concept at *Alice* step two. Defendant further reserves the right to submit and rely upon expert testimony in support of its contentions regarding patent ineligibility.

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

Respectfully submitted,

MORRIS, NICHOLS, ARSHT & TUNNELL LLP

/s/ David Silbert

Brian P. Egan (#6227)
Cameron P. Clark (#6647)
1201 North Market Street
P.O. Box 1347
Wilmington, DE 19899
(302) 658-9200
began@morrisnichols.com
cclark@morrisnichols.com

Attorneys for Defendant Google LLC

OF COUNSEL:

David Silbert
Edward A. Bayley
JD Schneider
Ryan J. Hayward
Catherine C. Porto
KEKER, VAN NEST & PETERS LLP
633 Battery Street
San Francisco, CA 94111-1809
(415) 391-5400

Dated: February 18, 2026

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on February 18, 2026, a copy of the foregoing document was served on the counsel listed below in the manner indicated:

BY EMAIL

Andrew C. Mayo, Esquire
ASHBY & GEDDES
500 Delaware Avenue, 8th Floor
Wilmington, DE 19801
Attorney for Plaintiff

Ronald M. Daignault, Esquire
Chandran B. Iyer, Esquire
Oded Burger, Esquire
Steve Reynolds, Esquire
Lisa Phillips, Esquire
DAIGNAULT IYER LLP
8229 Boone Boulevard, Suite 450
Vienna, VA 22182
Attorneys for Plaintiff

/s/ David Silbert
David Silbert

AccuSearch Exhibit 2011
Google v. AccuSearch - IPR2026-00287