

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

PARUS HOLDINGS, INC.,
Patent Owner.

Trial No. IPR2023-00303

Patent No. 8,185,402

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

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1009	INTENTIONALLY OMITTED
1010	U.S. Patent No. 6,594,654 to Salam (“Salam”)
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1015	Case Schedule in <i>Parus Holdings Inc. v. Microsoft Corporation</i> , Case No. 6:21-cv-00570 (W.D. Tex.)
1016	Order Resetting Jury Trial in <i>Fintiv, Inc. v. Apple, Inc.</i> , Case No. AU:19-cv-01238 (W.D. Tex.)
1017	McKeown, Scott. “District Court Trial Dates Tend to Slip After PTAB Discretionary Denials,” <i>Patents Post-Grant</i> (blog), July 24, 2020.
1018	Zue, Victor and Lynette Hirschman. “Spoken Language Recognition and Understanding.”
1019	Pallett, David, Johathan G. Fiscus, William M. Fisher, and John S. Garofolo. “Benchmark Tests for the DARPA Spoken Language Program.”

1020	Roberts, Bill. “A Change of Interface: Speech recognition fosters better customer service through self-service.” <i>Emerging Technology, CIO</i> , May 15, 1999.
1021	Jacobs, Paul S. and Lisa F. Rau. “SCISOR: Extracting Information from On-line News.” <i>Communications of the ACM</i> 33, no. 11 (November 1990): 88-97.
1022	Jacobs, Paul S., George Krupka, and Lisa Rau. “GE-CMU: Description of the Shogun System Used for MUC-5.” Information Technology Laboratory, GE Research and Development
1023	Voorhees, Ellen M. and Donna Harman. “Overview of the Eighth Text Retrieval Conference (TREC-8).” National Institute of Standards and Technology, (1999).
1024	Lam, Sunny. “The Overview of Web Search Engines.” University of Waterloo, Department of Computer Science, (2001).
1025	Clark, John and Colin Yallop. “Units of Speech,” “The Phonemic Organization of Speech,” and “Appendix 1: Phonetic Symbols.” In <i>An Introduction to Phonetics & Phonology</i> . Cambridge: Basil Blackwell, Inc., 1990. (Excerpt)
1026	“ping.” <i>Microsoft Press Computer Dictionary</i> , Third Ed., 1997.
1027	Salton, Gerard and Michael J. McGill. <i>Introduction to Modern Information Retrieval</i> . New York: McGraw-Hill Book Company, 1983. (Excerpt)
1028	“Ch.1 Getting Started” and “Ch.19 Accessing Transaction Systems Using MQSeries.” In <i>Lotus Notes Release 4.5: A Developer’s Handbook</i> . IBM Corporation, 1996. (Excerpt)
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I. INTRODUCTION

Apple Inc. petitions for *Inter Partes* Review of Claims 1-15 (“the Challenged Claims”) of U.S. Patent No. 8,185,402 (“’402 patent”).

II. THE ’402 PATENT

A. Specification

The ’402 patent relates to retrieving information from websites in response to voice commands. *See*, EX1001, Abstract; EX1002, ¶¶34-39, 61-62. A speech-recognition engine converts voice commands received from a voice-enabled device into data messages. EX1001, 6:3-7; EX1002, ¶63. The speech-recognition engine is speaker-independent. EX1001, 4:39-41; EX1002, ¶63. Rather, it uses phonemes to recognize spoken words, not predefined voice patterns. EX1001, 4:41-43; EX1002, ¶63.

The converted data messages are used to retrieve records identifying websites that may provide the information requested by the user. EX1001, 6:42-45; EX1002, ¶¶34-39, 64. Based on the records, the system accesses the identified website(s) to retrieve this information, which is converted into an audio message and transmitted to the user. EX1001, 4:50-63; EX1002, ¶64. A “content description file associated with a web page” specifies “where to extract data from the accessed web page and how to format a response to the user utilizing that data.” EX1001, 7:19-24; EX1002, ¶64.

The system stores website addresses (URLs) and content descriptor files for each website. EX1001, 5:3-10; EX1002, ¶64. Additionally, each web site record contains a rank. EX1001, 19:57-58; EX1002, ¶64. When the system receives a user command, it accesses the websites in rank order. EX1002, ¶¶64-66; EX1001, 19:63-20:2; EX1002, ¶65.

The system includes a “polling mechanism,” which “continually polls or ‘pings’ each of the sites listed in the database 100.” EX1001, 20:15-18; EX1002, ¶66. The polling mechanism “monitors the response received from each web site and determines whether it is a complete response and whether the response is in the expected format specified by the content descriptor file[.]” EX1001, 20:21-24; EX1002, ¶66. Sites providing complete responses are ranked based on response time, and “web sites with faster response times will be ... assigned higher rankings than those with slower response times.” EX1001, 20:25-30; EX1002, ¶66. Conversely, rankings are lowered for non-responsive websites. EX1001, 20:30-33; EX1002, ¶¶65-66.

B. Priority Date

The '402 patent was filed December 20, 2010, claiming priority to U.S. Provisional Application No. 60/180,344 (“’344 Application,” EX1005), filed February 4, 2000. EX1004, p.8.

The '402 patent is not entitled to the benefit of the '344 Application's priority date because the '344 Application does not provide adequate written description for the Challenged Claims. *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1571 (Fed. Cir. 1997); EX1002, ¶¶69-75.

First, each of the Challenged Claims requires a “*speaker-independent speech recognition engine*.” The '344 Application does not describe a **speaker-independent** speech recognition engine. EX1002, ¶72. Rather, the '344 Application says only:

The voice server processes the request using a speech recognition program. The output of the speech recognition program is a computer-readable request that is sent to an information retrieval computer.

EX1005, 4:1-3. The '344 Application does not satisfy the written description requirement for the claimed **speaker-independent** speech recognition. *Knowles Elecs. LLC v. Cirrus Logic, Inc.*, 883 F.3d 1358 (Fed. Cir. 2018) (general disclosure of connecting solder pads to a PCB did not satisfy written description requirement for claims reciting a specific manner of connecting); EX1002, ¶¶72,

75. Even if it would have been obvious to a POSITA that the general disclosure of speech recognition would include speaker-independent techniques, this is not enough. *Lockwood*, 107 F.3d at 1572 (“Entitlement to a filing date does not extend to subject matter which is not disclosed but would be obvious over what is expressly disclosed. It extends only to that which is disclosed.”); *see also Knowles Elecs. LLC*, 883 F.3d at 1365.

Second, each Challenged Claim requires “*first accessing a first web site ... and, if said information to be retrieved is not found at said first web site, ... sequentially accessing said plurality of web sites until said information to be retrieved is found or until said plurality of web sites has been accessed.*” The ’344 Application says only:

Multiple information sources may be prioritized by the information retrieval computer so that if any one source is unavailable, other sources can be quickly contacted.

EX1005, 4:6-8; EX1002, ¶73. It does not describe sequentially accessing websites “*until said information to be retrieved is found or until said plurality of websites has been accessed.*”

Third, each of Claims 3-5 and 9-14 recites a “*ranking from highest to lowest associated with each said web site.*” The ’344 Application does not discuss ranking. EX1005; EX1002, ¶74.

Because the '344 Application does not provide written description of the Challenged Claims, their effective filing date cannot be earlier than September 15, 2000—the priority date of the next-earliest application to which the '402 patent claims priority. EX1001.

III. GROUNDS FOR STANDING

Petitioner certifies the '402 patent is available for IPR and that Petitioner is not barred or estopped from requesting IPR of the Challenged Claims on the grounds identified herein.

IV. STATEMENT OF PRECISE RELIEF REQUESTED FOR EACH CLAIM CHALLENGED

Petitioner requests IPR and cancellation of the Challenged Claims on the obviousness grounds below.

Ground	Claims	§103 Combination
1	1-6, 8-14	Salam and Loghmani
2	7, 15	Salam, Loghmani, and Kumar
3	1-6, 8-14	Loghmani and Messerly
4	3-5, 9-14	Loghmani, Messerly, and Culliss
5	7, 15	Loghmani, Messerly, Culliss, and Kumar

V. LEVEL OF SKILL

A POSITA would have had, through education or practical experience, the equivalent of a bachelor's degree in computer science or a related field and at least an additional two years of work experience in interactive voice response systems,

automated information retrieval systems, or related technologies, such as web-based information retrieval systems. EX1002, ¶¶30-33. Additional education may substitute for lesser work experience and vice-versa. *Id.*

VI. CLAIM CONSTRUCTION

Claim terms are given their ordinary and customary meaning, as would have been understood by a POSITA in the context of the entire patent disclosure.

Phillips v. AWH Corp., 415 F.3d 1303 (Fed. Cir. 2005); 37 CFR §42.100(b).

Petitioner does not assert that any express constructions are necessary to resolve the unpatentability issues presented herein.

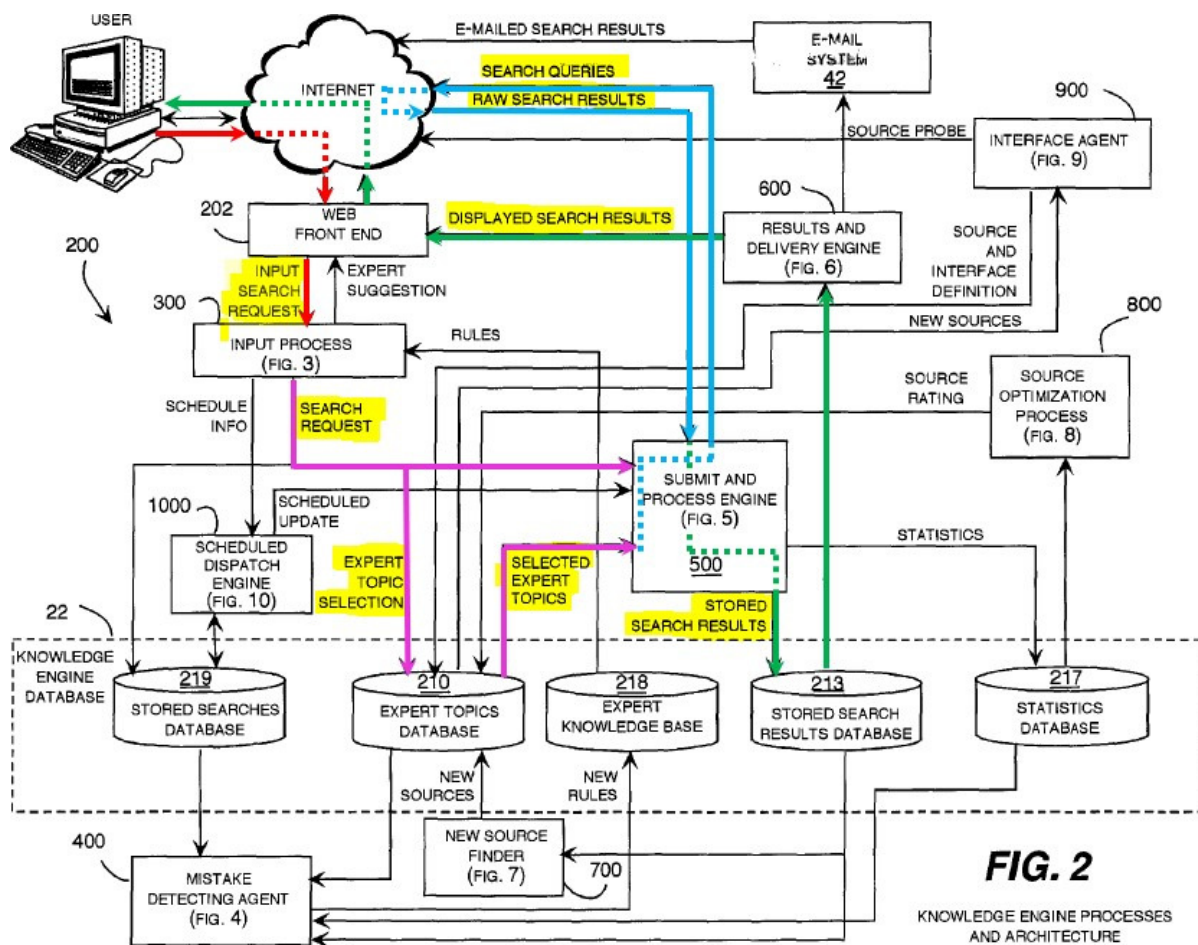
VII. DETAILED EXPLANATION OF GROUNDS FOR UNPATENTABILITY

A. Ground 1: Claims 1-6 and 8-14 Would Have Been Obvious over Salam and Loghmani

1. Overview of Salam

Salam, filed March 3, 2000 and issued in 2003, qualifies as prior art under §102(e)(2)(pre-AIA) using the September 2000 priority date. EX1010.

Salam describes a “knowledge engine” for conducting internet research. EX1010, 1:8-13; EX1002, ¶¶77-78. Figure 2, annotated below, illustrates how Salam’s knowledge engine provides information retrieved from websites in response to user commands:



EX1002, ¶79. Salam's knowledge engine (i) receives user queries (red arrows), (ii) sends the query to the submit and process engine 500 **and** selects an expert topic based on the query, where each expert topic contains a ranked list of one or more sources (websites) likely to contain responsive information (pink arrows), (iii) sequentially submits the query to one or more sources within the selected expert topic to retrieve the information (blue arrows), and (iv) returns any results to the user (green arrows). *See* EX1010, Figure 2, Abstract, 13:52-14:64, 15:25-37; EX1002, ¶¶79-80. The knowledge engine can be implemented using "voice

recognition of commands and text,” and responses to user queries can be delivered as a “voice message” via telephone. EX1010, 10:8-16, 12:51-60, 22:61-23:5; EX1002, ¶¶82.

Salam teaches maintaining an expert topic database listing sources for each topic and a ranking for each source based on statistics collected regarding the quantity and quality of the source’s previously produced results. EX1010, 6:56-62, 9:35-40, 15:20-22, 25:1-13; EX1002, ¶¶80-81. When a query is received, the system uses this ranking to select which source(s), and in what order, to access for responsive information. EX1010, 20:1-4, 25:21-27; EX1002, ¶¶79-80. If the highest-ranked website produces insufficient results, lower-ranked website(s) are accessed until sufficient results are retrieved. EX1010, 20:10-39, Figures 5A/5B; EX1002, ¶¶81. Thereafter, the system periodically re-submits stored search requests, seeking new/changed results and collecting additional source statistics. EX1010, 16:24-52, 27:6-55, 15:20-24, 20:59-67, 21:66-22:5; EX1002, ¶¶80-81.

Because Salam, like the ’402 patent, discloses a system for retrieving and delivering Internet information responsive to users’ requests, Salam is in the same field of endeavor as, and analogous art to, the ’402 patent. *Compare* EX1010, 3:58-61 (“[T]he present invention relates to systems and methods for conducting computerized research with a knowledge engine, especially suitable for the Internet environment[.]”), *with* EX1001, Abstract (“The present invention relates to a

system for acquiring information from sources on a network, such as the Internet.”); EX1002, ¶¶83.

2. Overview of Loghmani

Loghmani, filed in 1998 and issued in 2005, qualifies as prior art under §102(e)(2)(pre-AIA) under either priority date. EX1011.

Loghmani teaches using speaker-independent speech recognition to receive voice commands to retrieve information from Internet websites and using speech synthesis to provide the information to users via voice responses. EX1002, ¶¶86, 88-89. Loghmani discloses a “telephony-Internet interface” that “converts spoken queries into text for electronic commands” and allows callers to access online shops (websites) in response to spoken commands. EX1011, 2:53-59; EX1002, ¶¶86. A telephone-interface module (TIM) “performs speech recognition, speech-to-text and text-to-speech conversion operations.” EX1011, 7:63-8:5; EX1002, ¶¶90, 180. A user provides a “spoken query,” and a processor “is programmed to parse the query based on the phonemes therein.” EX1011, 4:54-58; EX1002, ¶¶89. The phonemes are “converted to text” and “[s]earches are then performed in the database using the spoken query text[.]” EX1011, 8:57-9:7; 9:15-30; EX1002, ¶¶90, 179-180.

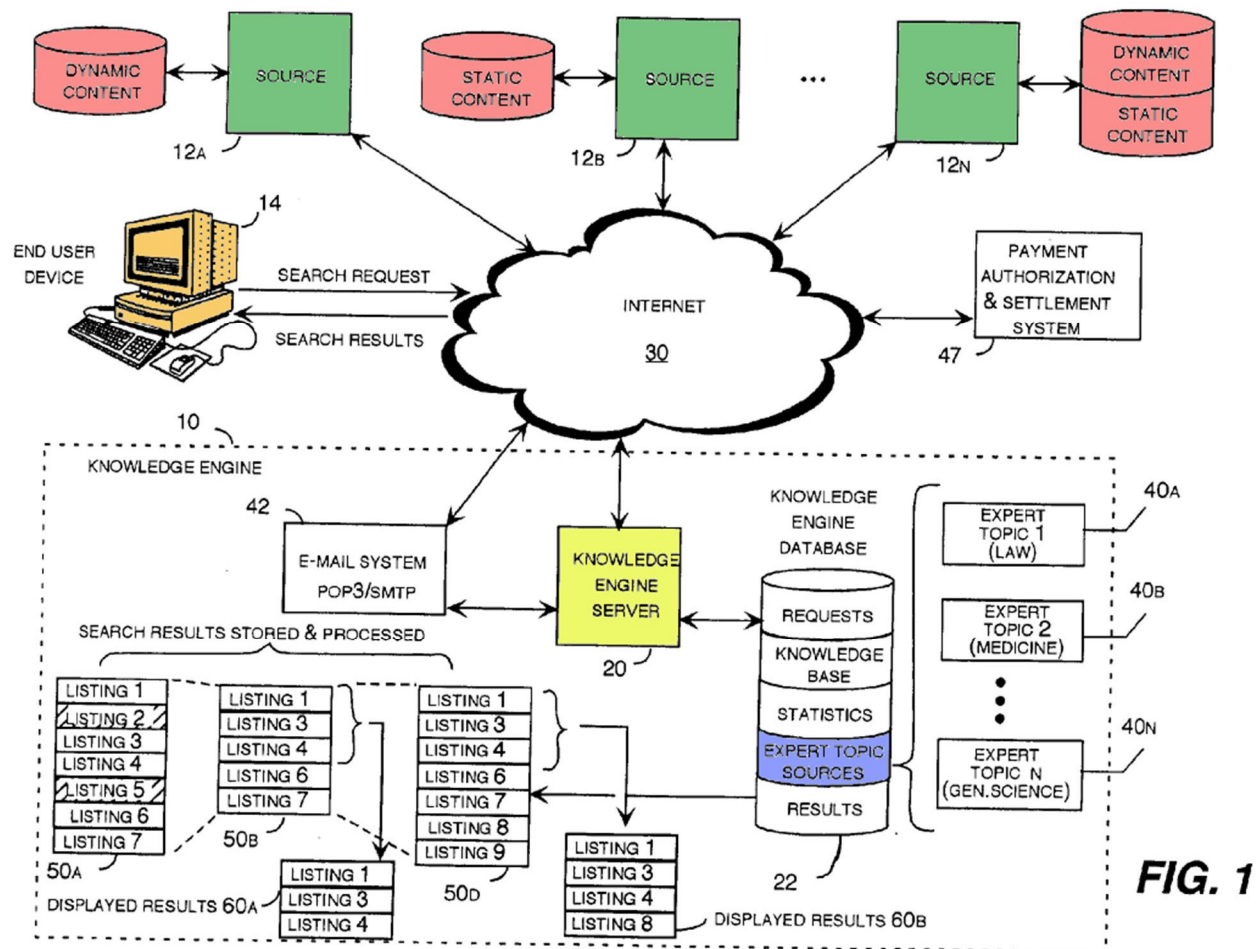
Because Loghmani, like the ’402 patent, discloses a speaker-independent speech recognition engine for use in searching online sites using telephonic voice

commands, Loghmani is in the same field of endeavor as the '402 patent. *Compare* EX1011, 2:55-59 (“The telephony-Internet interface converts spoken queries into text for electronic commands transmitted to online shops ... and converts requested information from markup language pages to audio messages for callers.”) *with* EX1001, 1:26-28 (“The present invention relates to a robust and highly reliable system that allows users to browse web sites and retrieve information by using conversational voice commands.”); EX1002, ¶¶91-93.

3. **Claim 1**

[1.preamble] A method for retrieving information from web sites by uttering speech commands into a voice enabled device and for providing to users retrieved information in an audio form via said voice enabled device, said method comprising the steps of:

Salam discloses the preamble. EX1002, ¶94. Figure 1, annotated below, depicts Salam’s operating environment:



The knowledge engine receives user queries submitted at an end-user device (orange). EX1010, 10:31-35; EX1002, ¶¶94. The knowledge engine server (yellow) receives the query and consults an expert topic sources list (blue) in a knowledge engine database storing a URL and associated information for one or more previously identified sources (websites). EX1010, 9:35-54; EX1002, ¶¶94. Using the URL, the knowledge engine server submits the query to the one or more identified sources (green) as necessary to retrieve responsive content (red) and returns results to the user. EX1010, 9:7-34, 10:48-54; EX1002, ¶¶94.

Although Salam describes Figure 1 as delivering search results via email (10:58-62), users can receive the results by telephone as a voice message. EX1010, 4:26-28; 8:48-54; EX1002, ¶¶94. While a user can interact with the knowledge engine using an online browser, “alternative user input devices such as voice recognition of commands and text” can be used. EX1010, 12:49-60; EX1002, ¶¶94.

[1.1] providing a computer operatively connected to the internet, said computer further being operatively connected to at least one speaker-independent speech recognition engine and to at least one speech synthesis engine;

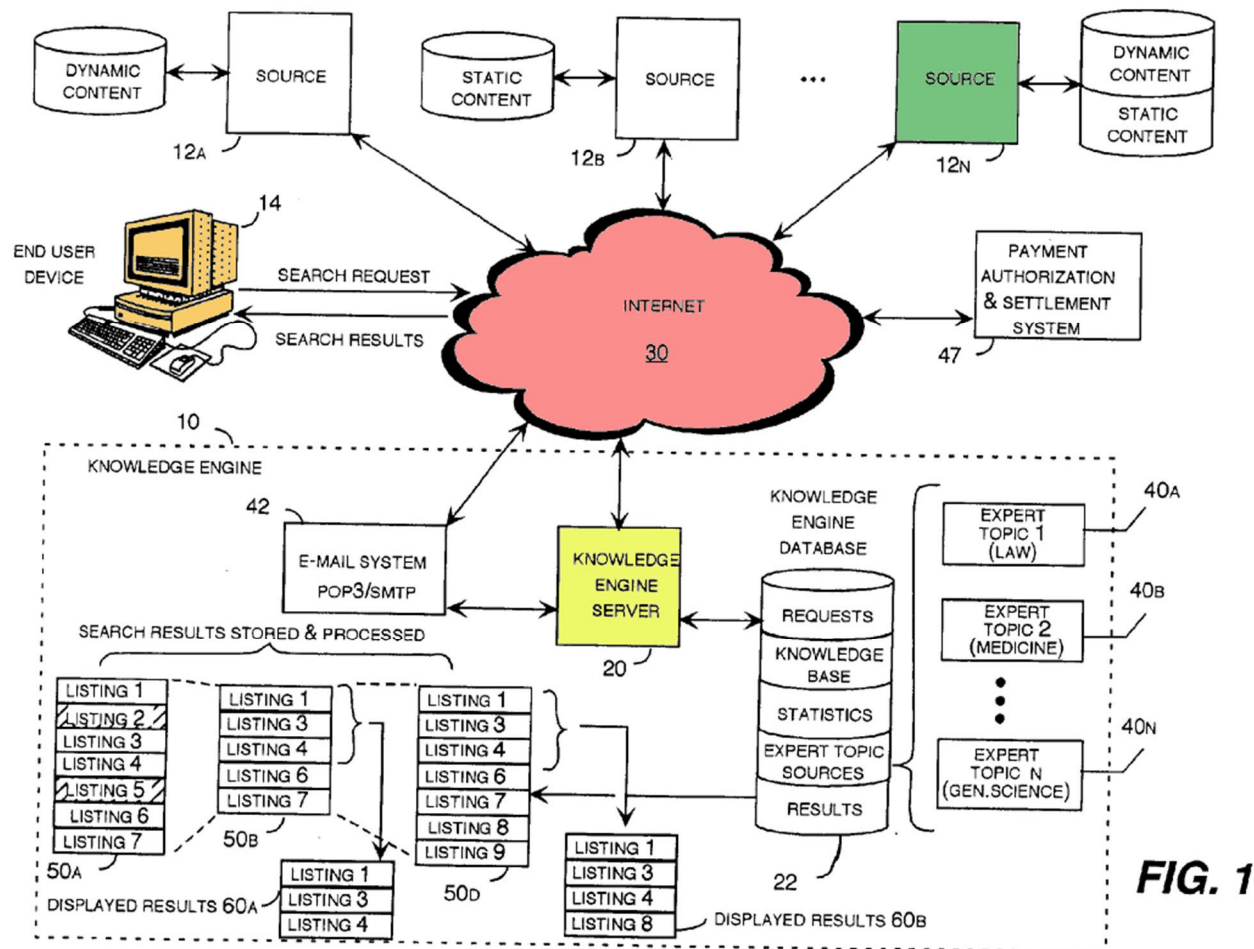
[1.2] providing a voice enabled device operatively connected to said computer, said voice enabled device configured to receive speech commands from users;

[1.3] providing a speech command to said speaker-independent speech recognition engine,

As illustrated above and further described below, the Salam/Loghmani combination teaches Claim [1.1]-[1.3]; EX1002, ¶¶95-105.

- a. Salam discloses a computer connected to the internet and to a voice-enabled device that is configured to receive speech commands from users

As illustrated in annotated Figure 1 below, Salam’s knowledge engine includes a knowledge engine server (yellow) “constructed with one or more commercially available server computers” and “directly connected to the Internet” (red). EX1010, 8:55-58, 9:7-18, 9:59-60; EX1002, ¶¶95.



Salam discloses an “end user device” (orange) such as a “wireless telephone” connected, via the Internet, to the knowledge engine. EX1010, 8:38-54, 9:59-64, 10:31-35 EX1002, ¶¶96. At the device, a user submits a search request to the knowledge engine, which may be implemented using “voice recognition of commands.” EX1010, 12:49-60, 10:35-39; EX1002, ¶¶96.

- b. Salam suggests a computer connected to a speech recognition engine and a speech synthesis engine

Salam’s knowledge engine processes “can be implemented with ... **voice recognition of commands** and text.” EX1010, 12:49-60 (emphasis added);

EX1002, ¶96. Thus, Salam teaches connecting the knowledge engine server to a speech-recognition system. EX1002, ¶¶96-98.

The knowledge engine includes results and delivery engine 600, which “transmits” results to the user device by email or “other methods of transmission, such as ... cellular phones.” EX1010, 15:25-29, 15:34-37, 22:47-51; EX1002, ¶97. In Figure 6, annotated below, the system “determine[s] [a] selected delivery method” at step 605 (yellow) and “creat[es] a report format for the selected delivery method” at step 610 (green), such as voice response (red). EX1010, 22:61-67, 23:11-15; EX1002, ¶¶96-97.

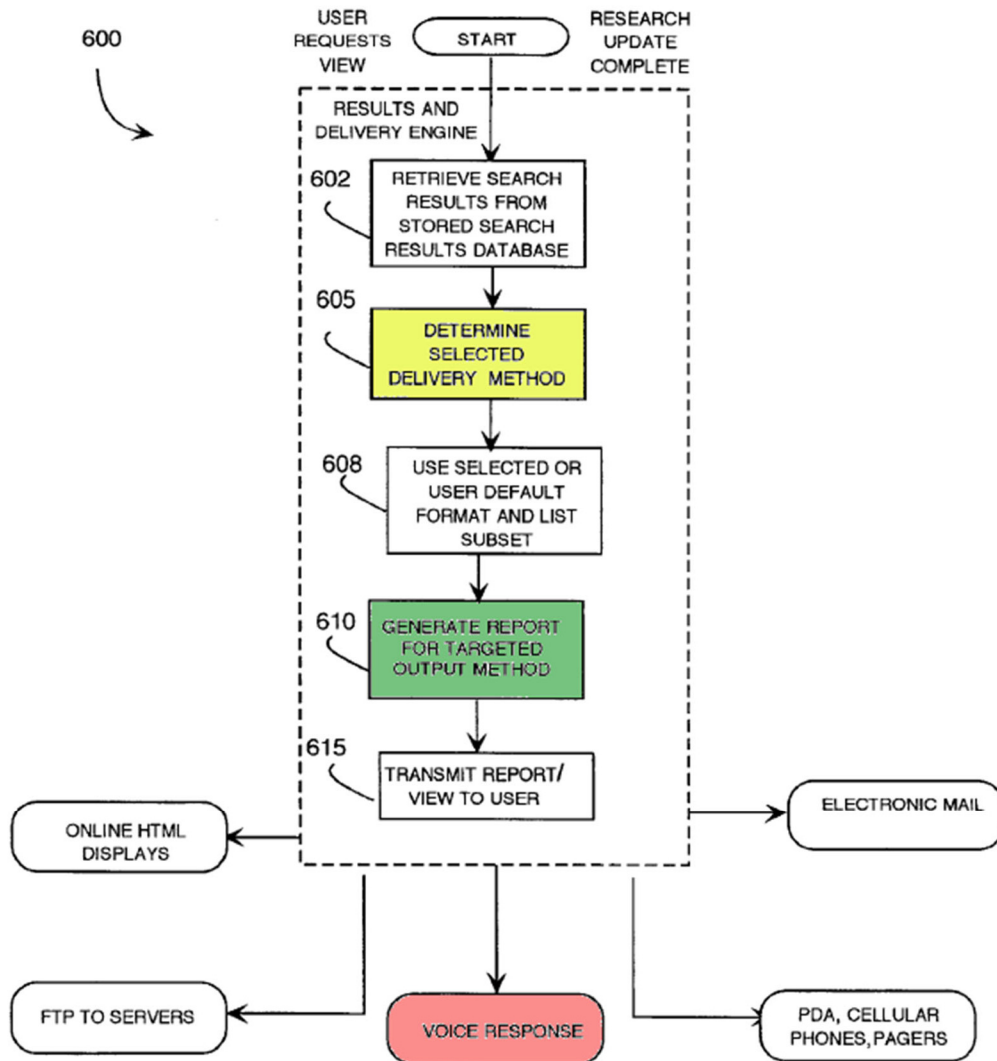


FIG. 6
RESULTS & DELIVERY ENGINE

Because the same search results can be formatted and delivered via e-mail, HTML, or “voice response,” **and** because a speech synthesis engine would be necessary to generate such a “voice response” from a text result, Salam inherently discloses a “*speech synthesis engine.*” EX1002, ¶¶96-98.

- c. Loghmani discloses a computer connected to the Internet, a speech recognition engine, a speech synthesis engine, and a voice-enabled device configured to receive users' speech commands

As annotated Figure 10 below illustrates, Loghmani discloses a “voice-enabled system 60” comprising a telephony-Internet interface (TII) (yellow) configured as a telephony server (computer). EX1011, 2:53-59, 3:4-7; EX1002, ¶¶99. The TII is connected to the Internet, a speech-recognition engine and a speech-synthesis engine (collectively the telephone interface module (TIM) (blue)), and a voice-enabled device (orange):

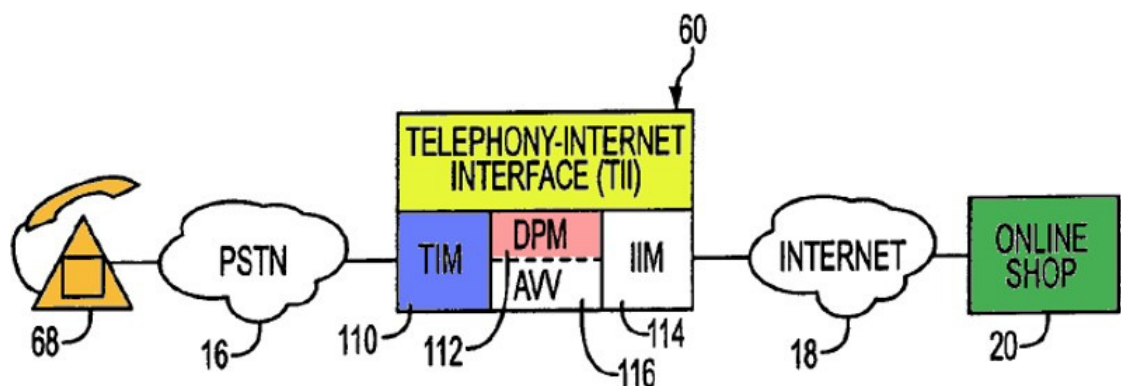


FIG. 10

The TII receives a user’s telephonic speech command. EX1011, 2:53-59, 8:57-67; EX1002, ¶¶99, 104-105. The TIM handles “incoming [telephone] calls” and “performs speech recognition, speech-to-text and text-to-speech conversions operations[.]” EX1011, 7:63-8:8; EX1002, ¶104. The “Data Presentations Module (DPM)” (red) “converts commands received from the TIM 110 into electronic

commands such as HTTP requests[.]” EX1011, 8:9-11; EX1002, ¶¶104-105. The DPM “parses the HTML-type information returned by a site” (green); the TIM performs text-to-speech conversion to provide a spoken response to the caller. EX1011, 8:20-25, 10:39-49; EX1002, ¶¶104-105.

d. Loghmani discloses a “speaker-independent” speech recognition engine

The term “*speaker-independent speech recognition engine*” should be given its plain and ordinary meaning: a system that recognizes spoken language input without requiring speaker enrollment—i.e., without previously obtaining speaker-specific data (e.g., pronunciation or intonation of certain words). EX1002, ¶¶99-100. However, in *Apple Inc. v. Parus Holdings, Inc.*, IPR2020-00686 (“*Parus I*”) the Board construed “speaker-independent speech recognition device” in a related patent to mean “speech recognition device that recognizes spoken words without using predefined voice patterns” based in part on a WDTX construction partially agreed to by Apple. EX1007, 10.

Under the plain and ordinary meaning, the *Parus I* construction, or the WDTX construction, Loghmani teaches a speaker-independent speech recognition engine. EX1002, ¶¶88-89, 99-100.

Loghmani’s TIM (speech recognition engine) identifies phonemes within a spoken query to generate an electronic command for accessing an online shop. “[W]hen a spoken query is received for the voice-optimized database 62, a

processor 76 operating in conjunction with the database 62 ... is programmed to parse the query based on the phonemes therein[.]” EX1011, 4:54-58; EX1002, ¶¶99-100. The system converts the phonemes to text, and the DPM generates HTTP requests for submission to websites. EX1011, 8:9-20 (“To communicate with the ... sites, the DPM 112 uses scripts to translate user inputs (e.g., DTMF tones or speech that has been converted to text by the TIM 110) into input information[.]”); EX1002, ¶100.

To account for possible pronunciation differences between speakers, the system generates “multiple queries based on what a given query sounds like.” EX1011, 8:63-67; EX1002, ¶¶88-89, 99-100. For example, while phonemic speech recognition may interpret the spoken input to be “Gone wid da Wind,” the system identifies phonemically similar “related text,” such as “Gone with the Wind” and “Gone vid da Vind.” EX1011, 8:67-9:7, 9:15-30 (teaching that “several samples of a spoken query are generated to conduct multiple searches of the data in the database” by analyzing an input search string’s phonemes); EX1002, ¶¶88-89, 99-100.

Thus, Loghmani’s phonemic speech recognition is “*speaker-independent*” under its plain and ordinary meaning, the WDTX construction, and/or the *Parus I* construction because speaker-dependent systems do not need to account for the possibility of different pronunciations. EX1002, ¶¶88-89, 99-100. Rather, a

speaker-dependent system would require speaker enrollment and store speaker-specific voice patterns, so the system could convert the speaker's spoken query to text despite his/her mispronunciation of words. EX1002, ¶¶88-89, 99-100.

e. It would have been obvious to combine Salam and Loghmani

The Salam/Loghmani combination discloses providing a computer operatively connected to the Internet, to a speaker-independent speech-recognition engine, and to a speech-synthesis engine as recited in Claims [1.1], [1.2], and [1.3].

It would have been obvious to a POSITA to combine Salam's knowledge engine server with Loghmani's speaker-independent speech recognition engine and speech synthesis engine. EX1002, ¶¶40-46, 96-97, 102. Salam itself suggests implementing the knowledge engine using "voice recognition of commands and text" from a telephone and delivering text-based responses to user queries as a "voice message" via a telephone. EX1010, 12:49-60; EX1002, ¶¶96-97; *see Intercontinental Great Brands LLC v. Kellogg N. Am. Co.*, 869 F.3d 1336, 1348 (Fed. Cir. 2017). A POSITA would have expected that using Loghmani's telephony-internet interface with Salam's knowledge engine server would achieve a predictable and desirable result of a system that could receive a telephonic voice command search request without requiring user-specific enrollment in the speech recognition system. EX1002, ¶¶40-46, 87, 93, 102; *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 995, 1003 (Fed. Cir. 2016) (identifying technique's

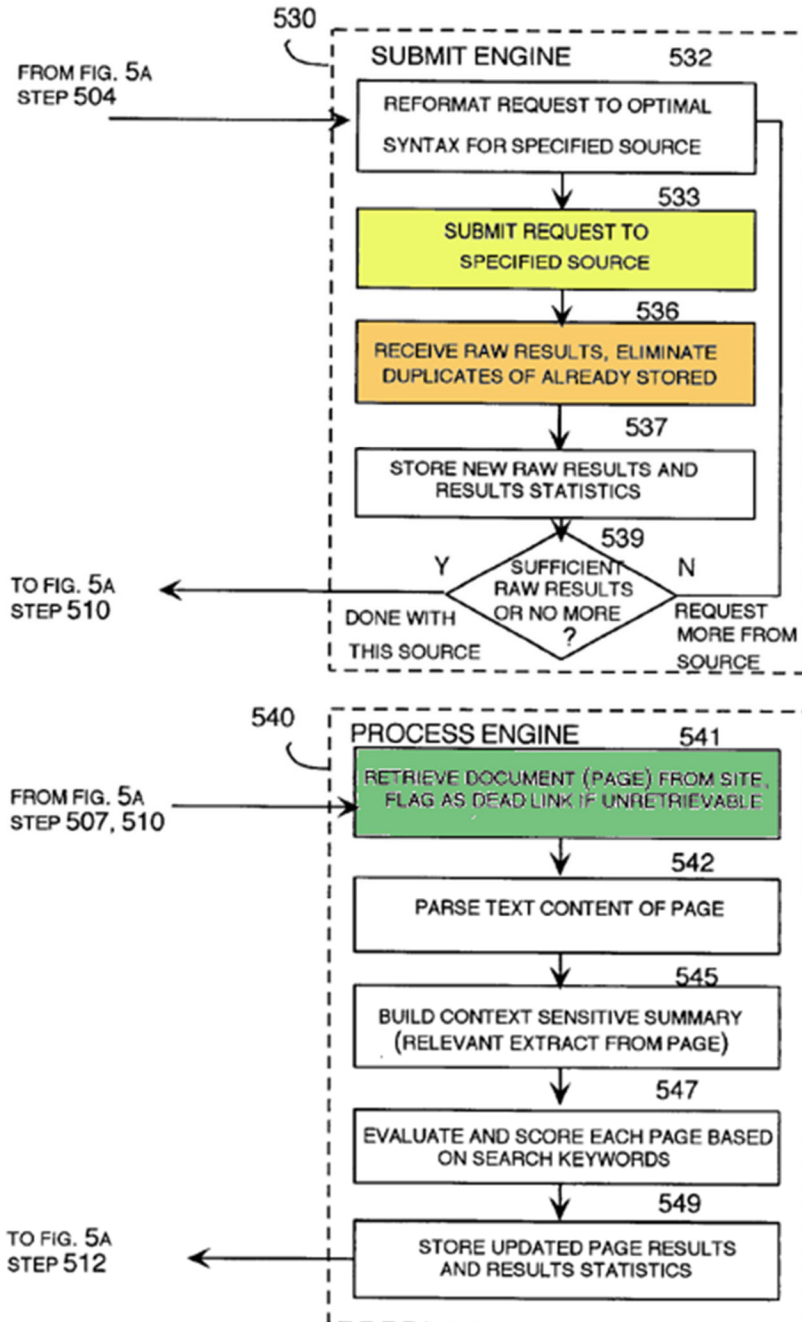
“potential to improve the device” as a factor supporting obviousness). This would have eliminated the delay caused by requiring a user to enroll for speech recognition and improved the user’s experience with Salam’s information-retrieval system, particularly when using a telephone to issue speech commands and receive voice responses. EX1002, ¶102 (explaining that speaker-independent speech recognition would improve the efficiency of Salam’s system in the same way these features benefit Loghmani’s system).

Further, if Salam does not inherently teach a speech synthesis engine, it would have been obvious to use Loghmani’s speech synthesis engine with Salam’s knowledge engine server to convert the retrieved text-based information from the website into a voice response. *ACCO Brands Corp. v. Fellowes, Inc.*, 813 F.3d 1361, 1366 (Fed. Cir. 2016) (finding motivation to combine first reference identifying a device that performs a function with second reference describing a “common way” to perform that function). EX1002, ¶¶87, 93, 102.

A POSITA would have understood that Loghmani simply adds commonly known details regarding operation and implementation of certain features—such as phoneme-based spoken language recognition and text-to-speech conversion—already taught or suggested by Salam. Thus, it would have been obvious to a POSITA to combine these references. EX1002, ¶¶87, 93, 102.

[1.4] said computer accessing at least one of a plurality of web sites associated with said speech command to obtain an information to be retrieved,

Salam's knowledge engine is "operative to receive a search request from a user" and "locate relevant information pertaining to that search request." EX1010, 10:31-35; EX1002, ¶106. As shown in Figure 5B, annotated below, when the knowledge engine receives a user's search command, the submit and process engine "submit[s] the request" (yellow) to one or more sources, "typically via an http request." EX1010, 14:37-40, 20:59-62; EX1002, ¶106. A "source" includes "any computer-accessible site that can be queried via a network connection." EX1010, 5:45-57, 9:21-27; EX1002, ¶106. The submit and process engine receives raw results directly from the website(s) in response to the submitted request(s) (orange) and also may retrieve information responsive to the query directly from websites during processing (green). EX1010, 20:61-62; EX1002, ¶¶106-107.



The submit and process engine receives a user's search command and a selected expert topic, which may be based on the search terms in the request. EX1010, 19:65-20:1, 14:30-35; EX1002, ¶106. Thereafter, the submit and process engine selects one or more sources, from the selected expert topic, to which to

submit the search request. EX1010, 14:37-40; Fig. 5A, step 502; EX1002, ¶106.

Accordingly, Salam's knowledge engine accesses websites that are "*associated with said speech command.*" EX1002, ¶107.

[1.5] said computer first accessing a first web site of said plurality of web sites and, if said information to be retrieved is not found at said first web site, said computer sequentially accessing said plurality of web sites until said information to be retrieved is found or until said plurality of web sites has been accessed;

Salam discloses accessing a first website of a plurality of websites. The "submit engine 530 is independently operative to submit the request(s) to one or more specified sources, 1, 2, ... N[.]" EX1010, 20:2-4; EX1002, ¶108. "[N]ot all possible sources associated with a selected expert topic are searched at the same time." EX1010, 20:22-25; EX1002, ¶¶108-110. Rather, "[c]ertain sources, typically lesser quality sources, can be delayed in searching to see if the higher quality searches have produced adequate search results." EX1010, 20:25-27; EX1002, ¶¶108-110. Thus, Salam contemplates selecting a single, high-quality source (N=1) for searching before submitting the request to other, lower-quality source(s). EX1002, ¶¶108-112. In this way, Salam's knowledge engine "*first access[es] a first web site of said plurality of web sites.*" EX1002, ¶¶108-109.

If the information to be retrieved is not found at the first website, the knowledge engine sequentially submits the user's query to additional source(s) until the information is found or the query has been submitted to the plurality of

sources. EX1002, ¶¶109-112. The submit and process engine monitors the quality and quantity of results received from a source to determine whether to submit the query to additional source(s). EX1002, ¶¶109-112. This is depicted in Figure 5A, annotated and described in the steps below:

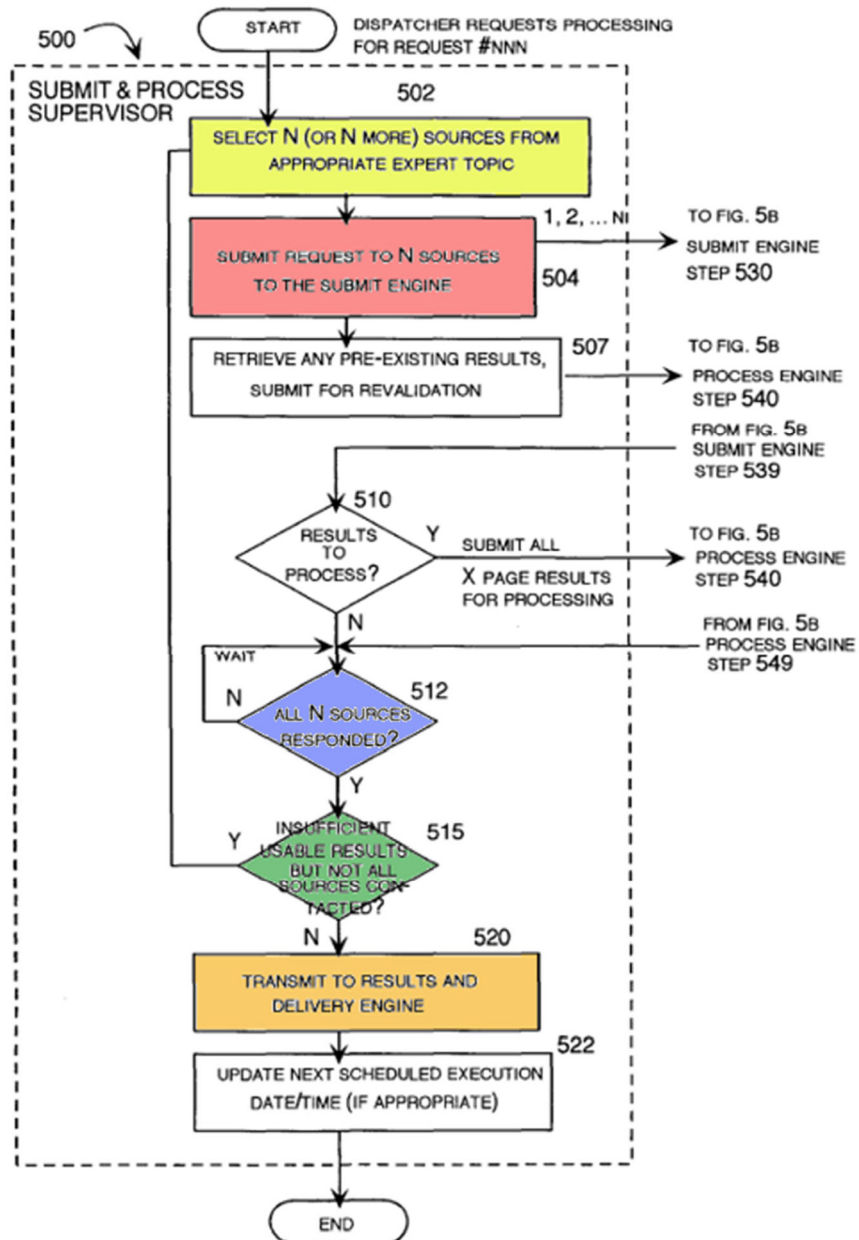


FIG. 5A SUBMIT & PROCESS ENGINE

1. At step 502 (yellow), the submit and process supervisor may select a single (N=1) **first** source and, at step 504, submit the request to that first source via Figure 5B's submit engine 530. EX1010, 19:65-20:4.

2. Information is retrieved from the first source at steps 536 and 541 (Figure 5B) and the method is transferred back to steps 512 or 515 (Figure 5A).

3. At step 512 (blue), it is determined that the first source has responded.

4. At step 515 (green), if the first source has not returned sufficient results (i.e., did not contain the information to be retrieved) but additional source(s) exist, the process returns to step 502. EX1010, 20:18-30.

5. At step 502 (yellow), the supervisor may select another single (N=1), **second** source from expert topic database. EX1010, 19:65-20:1.

6. Information is retrieved from the second source at steps 536 and 541 (Figure 5B) and the method may be transferred to step 515 (green) (either from Figure 5A, step 512 or Figure 5B, step 549) where it may be determined that the retrieved information is sufficient. EX1010, 20:18-22.

Thus, two conditions might allow the process to finish at step 520 (orange): (1) the source returned sufficient usable results, or (2) all sources have been searched. EX1010, 20:30-34; EX1002, ¶112.

[1.6] said speech synthesis engine producing an audio message containing any retrieved information from said web sites; and

[1.7] said speech synthesis engine transmitting said audio message to said users via said voice enabled device.

Salam discloses that any useful results obtained may be delivered to the user via audio message. EX1002, ¶¶113-116.

After retrieval of information from the websites in response to the query, the submit and process engine stores the information in the results database as described in connection with Figure 2 at §VII.A.1. EX1010, 14:62-64, 22:47-51; EX1002, ¶113. The knowledge engine server also includes a results and delivery engine that receives the search results returned by websites from the results database. EX1010, 13:6-12, 15:25-37; EX1002, ¶113. It then “transmits” the results to the user device using the user’s preferred delivery method, e.g., a voice response. EX1010, 22:61-67, 23:11-15; EX1002, ¶113.

Salam does not explicitly disclose a speech synthesis engine. However, as explained in §VII.A.3, Salam inherently teaches a speech synthesis engine, and it additionally would have been obvious to a POSITA to use Loghmani’s speech synthesis engine to generate a voice response containing the search results retrieved by Salam’s knowledge engine. EX1002, ¶¶114-116; EX1011, 10:46-49 (text-based results “can be converted to speech by the TIM 110 to provide at least a few of the book titles listed in the results page to the caller[.]”). Thus, it would

have been obvious to a POSITA to “*produc[e]*” and “*transmit[]*” an “*audio message containing any retrieved information,*” as recited in Claims [1.6] and [1.7]. EX1002, ¶¶113-116.

4. **Claim 2**

[2] The method of claim 1 wherein said speech command is further associated with a content descriptor associated with each said web site address, said content descriptor pre-defining a portion of said web site containing said information to be retrieved.

The ’402 patent teaches a content descriptor file, which “allows the web browsing server 102 to properly format requests and read responses provided by the web site 114 identified in the URL field 204 of the web site record 200.” EX1001, 7:15-18; EX1002, ¶117. The content descriptor file specifies “where to extract data from the accessed web page and how to format a response to the user utilizing that data.” EX1001, 7:21-24; EX1002, ¶¶117, 119. Salam does not explicitly teach a content descriptor file “*associated with **each** said web site address,*” but Loghmani also discloses the limitations of Claim 2, and a POSITA would have been motivated to implement Loghmani’s content descriptor file in Salam’s system. EX1002, ¶¶124-125, 182, 204-205.

Loghmani discloses a Data Presentations Module (DPM), which converts commands (“speech that has been converted to text by the TIM 110”) into HTTP requests to extract information from web sources. EX1011, 8:9-32; EX1002,

¶¶124, 182, 204-205. To formulate these requests, “the DPM uses **site-specific** scripts which help to identify ... **where** important data elements reside.” EX1011, 8:9-32 (emphasis added); EX1002, ¶¶124, 182. “[T]he DPM 112 uses **site-specific** scripts to locate relevant information (e.g., titles of books having AVs which are close to the spoken query AV) to report to the caller[.]” EX1011, 10:39-43 (emphasis added); EX1002, ¶¶124, 182.

It would have been obvious to a POSITA to combine this aspect of Loghmani with Salam’s knowledge engine. In Salam, a process engine (540) receives “hyperlinks or URLs” relating to a search request. EX1010, 21:18-22; EX1002, ¶¶120-125. Using these URLs, the process engine “pares” the text contained in the web pages (each having a website address), determines a web page portion containing information relevant to a user’s query, and constructs a “context sensitive summary” identifying “the portions of the listings that have the highest statistical relevance” to the query. EX1010, 21:28-35, 15:7-14; EX1002, ¶¶120-125.

Both Salam’s process engine and Loghmani’s site-specific scripts identify the location of information responsive to user queries and, therefore, define a “*portion of said web site containing said information to be retrieved.*” Further, a POSITA would have been motivated to implement Salam’s parser using Loghmani’s **site-specific** scripts. EX1002, ¶¶120-125. Doing so would have been

an obvious modification of Salam's parser, as both Salam's process engine and Loghmani's site-specific scripts had the same function (parsers to give accurate and helpful results in response to user queries), and site-specific parsing was widespread at the time because of its beneficial precision and accuracy. EX1002, ¶¶120-126.

Accordingly, the Salam/Loghmani combination teaches Claim 2.

5. Claims 3-4

[3] The method of claim 1 wherein said speech command is further associated with a ranking from highest to lowest associated with each said web site, said ranking indicating the order in which the plurality of web sites are accessed.

[4] The method of claim 3 wherein said computer accesses said plurality of web sites based on said ranking, said computer first accessing said web site having the highest ranking.

Salam discloses "a ranking from highest to lowest associated with each website." EX1002, ¶¶127-131. For example, Salam's knowledge engine uses a "source optimization process" to "rank the quality of a source," with the source ranking then being stored "in association with the source address in the expert topics database 210." EX1010, 25:1-4; EX1002, ¶¶127-128. This quality ranking may be an "indicator representing the number of items retrieved from any given search as well as the cumulative relevance/irrelevance of those items." EX1010, 25:4-9; EX1002, ¶127. "[E]ach source is ranked, or numbered, based on the reliability of prior search results that the source has provided in past searches. For

example, for any given expert topic, **a source consistently generating the most relevant items may be ranked number one, a source generating the second most relevant items may be ranked number two, and so on.**” EX1010, 25:21-27 (emphasis added); EX1002, ¶¶127-132.

Salam uses these rankings to determine in what order to access sources when performing a user search:

The source optimization process examines recent performance of sources used within each expert topic and as a whole. The analysis is used to re-optimize **the priorities at which each source is applied toward researching** within a particular expert topic.... The source improvement process allows the described system to constantly adapt to these changes by monitoring the success of interaction with the sources **and reprioritizing its use of each source** for an optimal mix of broad content coverage and efficient use of sources to achieve the desired quantity of results for each update. **This allows the good sources (defined by those the described processes have the greatest success obtaining valid and unique results from) to rise to the top of the queue, while less successful sources sink toward the bottom.**

EX1010, 24:37-56 (emphasis added), 15:61-16:7; EX1002, ¶¶128-129.

Salam’s submit engine may, then, sequentially submit the query to “one or more specified sources ***1, 2, ... N***” as discussed for Claim [1.5] at §VII.A.3.

EX1002, ¶¶128-130. In this manner, the ranking of the sources within the expert

database indicates the order in which queries are submitted to and information retrieved from sources (the order in which the websites “*are accessed*”), and the highest-ranked source would be the first to be accessed. EX1002, ¶¶127-132. The order in which the sources are accessed is not arbitrary; it is based on the quality of the sources, as indicated by each source’s quality ranking. EX1002, ¶¶127-130. For instance, when the supervisor returns to step 502 to select a second source to query (after determining that information retrieved is insufficient at step 515), the newly selected source may be a “lower quality rated” source, indicating that the earlier-accessed source (first source) was a higher-quality, higher-ranked source. EX1010, Fig. 5A, 20:28-30 (“If at 515 not all sources have been contacted and there are insufficient results, control passes back to step 502 to contact **other (and possibly lower quality rated) sources.**”) (emphasis added); EX1002, ¶¶127-130.

6. **Claim 5**

[5] The method of claim 4 further comprising the step of adjusting said rankings associated with said plurality of web sites such that said web site having said information to be retrieved is assigned the highest ranking and any web sites not having said information to be retrieved are assigned lower rankings.

Salam discloses “*adjusting*” the websites’ rankings such that the highest rankings are assigned to the websites producing relevant results (“*having said information to be retrieved*”) and lower rankings are assigned to the websites that

do not. Salam's source optimization process "examines recent performance of sources" and "monitor[s] the success of interaction with the sources[.]" EX1010, 24:37-39, 24:46-52; EX1002, ¶¶134-136. The process collects "statistics representing the number of items retrieved for any given search as well as the cumulative relevance/irrelevance of those items." EX1010, 24:57-61; EX1002, ¶¶134-135. The system "analyzes these statistics to determine updated rankings," which "allows the good sources ... to rise to the top of the queue, while less successful sources sink toward the bottom." EX1010, 24:52-56, 24:61-63; EX1002, ¶¶134-135.

A source that consistently produces relevant results is given the highest ranking: "[A] source consistently generating the most relevant items may be ranked number one[.]" EX1010, 25:23-27; EX1002, ¶¶134-135. Conversely, a source that produces irrelevant or unusable results is given a lower ranking: "That indicator, however, will be substantially lowered if most of those items emerge as link rot, irrelevant, or the like." EX1010, 25:11-13; EX1002, ¶¶134-135.

Annotated Figure 8 illustrates the process:

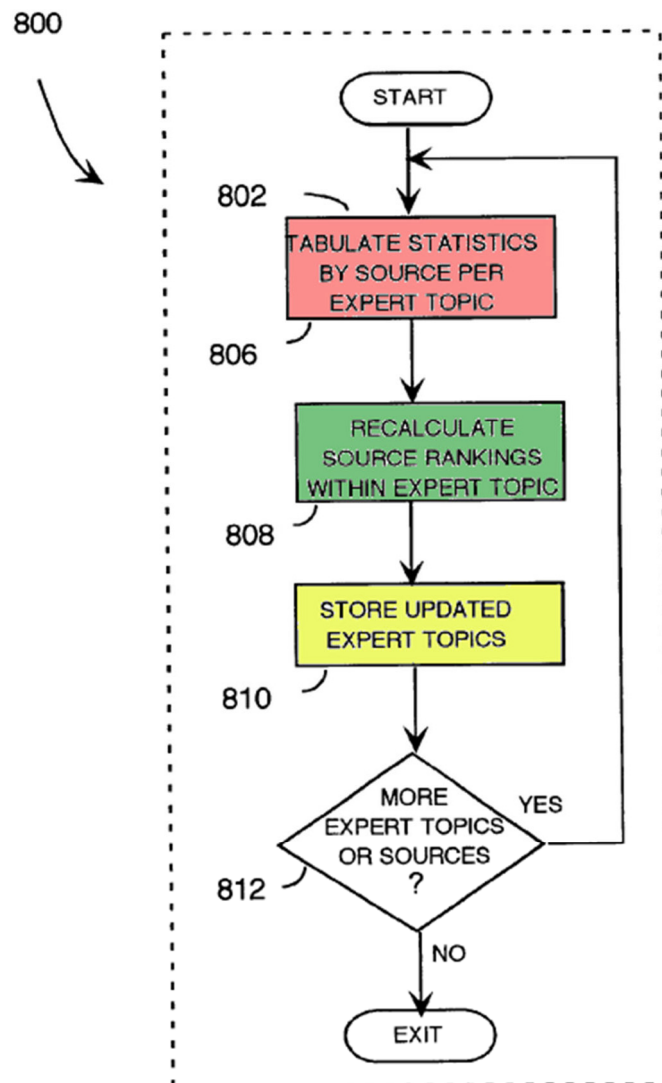


FIG. 8

SOURCE OPTIMIZATION AGENT

At step 802/806 (red), the source optimization agent retrieves and/or tabulates source performance statistics (quantity/quality of results). EX1010, 25:17-27; EX1002, ¶¶134-135. At step 808 (green), the “rankings are recalculated” based on “new statistical information tabulated in step 806.” EX1010, 25:28-29;

EX1002, ¶¶134-135. At step 810 (yellow), the updated rankings are stored.

EX1010, 25:38-40; EX1002, ¶¶134-135.

7. Claim 6

[6] The method of claim 1 further comprising the step of periodically polling each said web site to determine whether said web site contains said information to be retrieved.

Salam teaches that “after the search results have been provided to the user, the knowledge engine may be configured to **periodically** reevaluate the sources to determine whether they contain additional information that might be relevant to the user’s initial search.” EX1010, 6:40-44 (emphasis added); EX1002, ¶¶137. A “scheduled dispatch engine” is “operative for scheduling updated searches in accordance with schedule information stored in the stored searches database 219.” EX1010, 27:8-11; EX1002, ¶¶137. When the scheduled dispatch engine determines that a stored search should be updated, the search request is “retrieved from the stored searches database 219 and submitted to the submit and process engine 500.” EX1010, 27:40-50. The process described above in connection with Figures 5A/5B is then repeated for the sources that previously produced responsive results and, in some cases, for any new sources that may produce additional results. EX1010, 13:23-48 (steps 4, 7-11); EX1002, ¶¶137.

8. Claim 8

[8] The method of claim 1 further comprising the step of periodically searching said internet to find new web sites containing said information to be retrieved, and adding said new web sites to said plurality of web sites.

Salam discloses Claim 8's limitations. EX1002, ¶¶138-139. Salam teaches a "new source finder" that "periodically ... find[s] sites that might be suitable for inclusion as a source within an expert topic." EX1010, 23:25-31; EX1002, ¶¶138-139. The new source finder submits "exemplary search requests ... specific to particular expert topics[.]" EX1010, 23:57-62; EX1002, ¶¶138-139. If a site "produces reliable and repeatable results, in a sufficient number, for a plurality of test requests, the site is stored as a new source in the expert topics database 210." EX1010, 24:8-12; EX1002, ¶¶138-139.

9. Claim 9

System Claim 9 would have been obvious over Salam and Loghmani for reasons similar to those discussed above for method Claims 1-5. EX1002, ¶¶140-149. These claims contain requirements nearly identical to those in Claims 1-5 with the few differences shown with colored font in the table below:

Claims 1-5	Claim 9
<i>[1.pre]</i> A method for retrieving information from web sites by uttering speech commands into a voice enabled device and for providing to users retrieved information in an audio form via said voice enabled device , said method comprising the steps of:	<i>[9.pre]</i> A system for retrieving information from web sites by uttering speech commands into a phone and for providing to users retrieved information in an audio form via said phone , said system comprising:

Claims 1-5	Claim 9
[1.1] providing a computer operatively connected to the internet, said computer further being operatively connected to at least one speaker-independent speech recognition engine and to at least one speech synthesis engine; [1.2] providing a voice enabled device operatively connected to said computer,	[9.1] a computer, said computer operatively connected to the internet and to at least one phone; at least one speaker-independent speech recognition engine, said speaker-independent speech recognition engine operatively connected to said computer; at least one speech synthesis engine, said speech synthesis engine operatively connected to said computer;
	[9.2] a database, said database operatively connected to said computer, said database containing a plurality of web site addresses;
[2] The method of claim 1 wherein said speech command is further associated with a content descriptor associated with each said web site address, said content descriptor pre-defining a portion of said web site containing said information to be retrieved.	[9.3] a content descriptor associated with each said web site address, said content descriptor pre-defining a portion of said web site containing said information to be retrieved;
[3] The method of claim 1 wherein said speech command is further associated with a ranking from highest to lowest associated with each said web site, said ranking indicating the order in which the plurality of web sites are accessed.	[9.4] a ranking from highest to lowest associated with each said web site address, said ranking indicating the order in which the plurality of web sites are accessed;
[1.2] said voice enabled device configured to receive speech commands from users; [1.3] providing a speech command to said speaker-independent speech recognition engine,	[9.5] said speaker-independent speech recognition engine configured to receive from users via said phone a speech command;
[1.4] said computer accessing at least one of a plurality of web sites associated with said speech command to obtain an	[9.6] said computer configured to access at least one of said plurality of web sites associated with said speech command to

Claims 1-5	Claim 9
information to be retrieved, [1.5] said computer first accessing a first web site of said plurality of web sites and, if said information to be retrieved is not found at said first web site, said computer sequentially accessing said plurality of web sites until said information to be retrieved is found or until said plurality of web sites has been accessed; [4] The method of claim 3 wherein said computer accesses said plurality of web sites based on said ranking, said computer first accessing said web site having the highest ranking.	obtain said information to be retrieved, said computer configured to first access said web site having the highest ranking and, if said information to be retrieved is not found at said web site having the highest ranking, said computer configured to subsequently access said plurality of web sites in order of rankings until said information to be retrieved is found or until said plurality of web sites has been accessed;
[5] The method of claim 4 further comprising the step of adjusting said rankings associated with said plurality of web sites such that said web site having said information to be retrieved is assigned the highest ranking and any web sites not having said information to be retrieved are assigned lower rankings.	[9.7] said computer further configured to establish or adjust said rankings associated with said plurality of web sites such that said web site having said information to be retrieved is assigned the highest ranking and any web sites not having said information to be retrieved are assigned lower rankings;
[1.6] said speech synthesis engine producing an audio message containing any retrieved information from said web sites; and [1.7] said speech synthesis engine transmitting said audio message to said users via said voice enabled device.	[9.8] said speech synthesis engine configured to produce an audio message containing any retrieved information from said web sites, and said speech synthesis engine further configured to transmit said audio message to said users via said phone.

While Claim 9 requires a “*phone*” instead of a “*voice-enabled device*,” both Salam and Loghmani disclose using a phone. *See* §VII.A.1-3. The only other limitation not included in Claims 1-5 is Claim [9.2], which requires a “*database*

operatively connected to said computer” that “contain[s] a plurality of web site addresses.”

Salam teaches this limitation. EX1002, ¶143. Salam discloses a “knowledge engine database 22 ... operatively coupled to the [knowledge engine] server 20” that stores “a plurality of data entries, each entry comprising a network address or URL of the source[.]” EX1010, 8:58-61, 9:35-40, Fig. 1; EX1002, ¶143.

Accordingly, for this reason and those provided above for Claims 1-5, the Salam/Loghmani combination renders obvious Claim 9. EX1002, ¶¶140-149.

10. Claims 10-13

[10] The system of claim 9 wherein said phone comprises a standard telephone, a cellular phone, or an IP phone.

[11] The system of claim 9 wherein said internet is a local area network.

[12] The system of claim 9 wherein said internet is a wide area network.

[13] The system of claim 9 wherein said internet is the Internet.

Salam discloses that its system can be accessed by “wireless telephones” and can be implemented on the Internet, a LAN, or a WAN. EX1010, 8:48-54, 11:33-40. EX1002, ¶¶150-157.

11. Claim 14

[14] The system of claim 9 wherein said computer is configured to establish or adjust said rankings associated with said

plurality of web sites when instructed by said user to access said plurality of web sites to retrieve said information.

As discussed above in §VII.A.6 relating to Claim 5, Salam teaches “*adjusting*” rankings in response to an updated search. EX1002, ¶¶158-159. Statistics indicating source performance (quantity/quality of results) are collected when the system submits search requests, allowing source rankings to be updated in response to the results of each new request. EX1010, 15:20-24, 20:59-67, 21:66-22:4, 24:61-67; EX1002, ¶158. Users may instruct the system when to: perform a search, update search results, and modify search requests. EX1010, 5:5-7, 13:52-61, 16:25-37; 17:41-50, 27:23-25; EX1002, ¶158. Salam also discloses “*establishing*” these rankings, describing the “basic steps” of the process, which includes entering a search, evaluating search results, and rating sources. EX1010, 13:23-43; EX1002, ¶158.

B. Ground 2: Claims 7 and 15 would have been Obvious over Salam, Loghmani, and Kumar

[7] The method of claim 6 wherein the computer periodically polls each said web site without being instructed by said user to determine the availability of each said web site, the duration of time for each said web site to respond to a request from said computer, and changes to the location of said information to be retrieved from each said web site, said computer creating a ranking of said plurality of web sites based on said periodic polling.

[15] The system of claim 9 wherein said computer is configured to establish or adjust said rankings associated with said plurality of web sites based on periodic polling of each of said web sites without being instructed by said user to determine the availability of each said web site, the duration of time for each said web site to respond to a request from said computer, and changes to the location of said information to be retrieved from each said web site.

1. Salam Teaches Polling/Ranking

As described in connection with Ground 1 for Claim 6 at §VII.A.7, Salam teaches a “scheduled dispatch engine” that periodically polls websites. This may be performed “*without being instructed by said user.*” EX1002, ¶167.

Salam teaches that its scheduled dispatch engine re-submits stored searches based on receiving a “clock interrupt ... utilized to trigger search updating.” EX1010, 27:36-40; EX1002, ¶167. A clock interrupt is a function of a computer’s operating system, where the time on the computer clock can trigger a particular set of instructions; a clock interrupt, therefore, is independent of user instruction. EX1002, ¶167. Moreover, the scheduled dispatch engine may use a “default update

schedule,” further confirming that the scheduled dispatch engine operates without user instruction. EX1010, 27:20-22; EX1002, ¶167.

Salam further discloses periodically polling sources to determine their availability and changes to the location of information on the sites.

Salam teaches “*determin[ing] the availability*” of websites. EX1002, ¶168. When the scheduled dispatch engine re-submits search requests to sources, the system may determine that a source in the original search results is now a “dead link.” EX1010, 28:40-51; EX1002, ¶168. In Figure 11, annotated below, the “updated search results” 50d show that highlighted search result item 7, which was available at time t_2 has, at a later time t_5 , responded with “ERR 404,” indicating the source is no longer available. EX1010, 4:47-51; EX1002, ¶168.

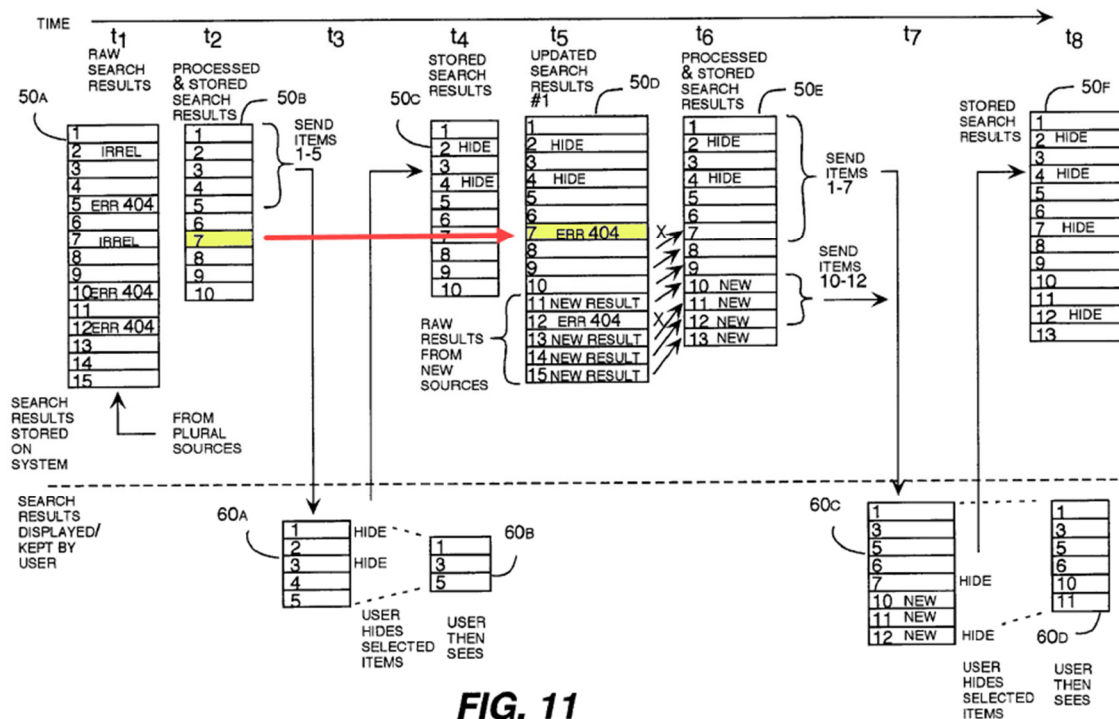


FIG. 11

Salam teaches determining “*changes to the location of information*” on websites. EX1002, ¶¶168-169. Salam’s knowledge engine is well-equipped to handle changing web content because “[u]nlike many conventional search engines, the disclosed knowledge engine: ... [a]lerts the searcher to new and changed items, and [a]ccesses pages with rapidly changing content that cannot be indexed by search engines.” EX1010, 5:11-24; EX1002, ¶168. “[O]n a regular basis, the sources within an expert topic database are reevaluated to determine if the source site setup has changed; and, if it has changed, in most cases, the knowledge engine automatically detects the new structure and adapts to it.” EX1010, 7:14-18; EX1002, ¶168.

When the scheduled dispatch engine causes a stored search to be re-submitted, the submit and process engine submits searches for “re-evaluation” which “helps determine if any pages or information found in a prior search have changed or become dead links.” EX1010, 20:5-10; EX1002, ¶¶168-169.

In Figure 12, annotated below, the results of an updated search at time t_9 include a source whose information has “CHANGED” since the source was previously queried. *See* EX1010, 29:21-26; EX1002, ¶¶168-169.

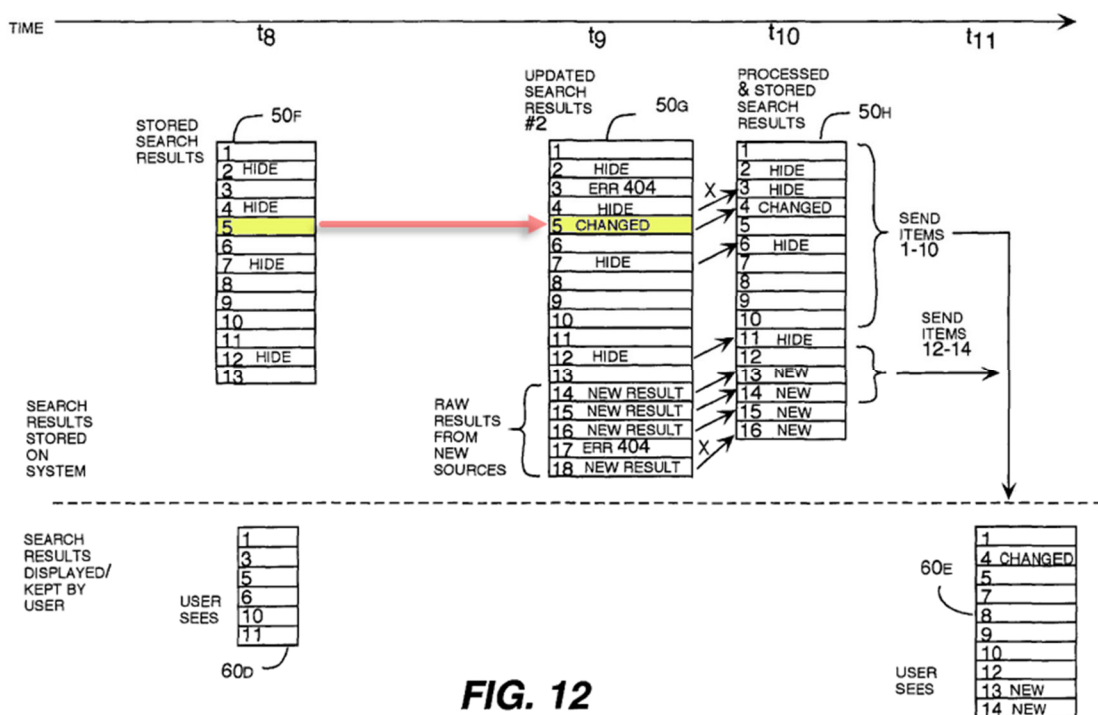


FIG. 12

Salam also discloses “creating” or “establishing” “a ranking” of websites based on the periodic polling. EX1002, ¶167. As discussed above in §VII.A., Salam discloses a “source optimization process” for assigning and updating source rankings based on source performance. EX1010, 24:33-67; EX1002, ¶¶127-134.

The process “examines recent performance of sources” and collects “statistics representing the number of items retrieved for any given search as well as the cumulative relevance/irrelevance of those items.” EX1010, 24:37-52, 24:57-61; EX1002, ¶¶127-134. The system “analyzes these statistics to determine updated rankings,” which “allows the good sources ... to rise to the top of the queue, while less successful sources sink toward the bottom.” EX1010, 24:61-63, 24:52-56; EX1002, ¶¶127-134.

The quality statistics used to create and adjust source rankings are based on an evaluation of response(s) received from the source(s). EX1010, 15:20-24; EX1002, ¶¶127-134. After the submit and process engine submits search requests to one or more sources at step 533 of Figure 5B, “[s]tatistics corresponding to the search are generated,” which include “how many findings or ‘hits’ were obtained from this source[.]” EX1010, 20:59-67; EX1002, ¶¶127-134. Thus, when the submit and process engine is instructed by the scheduled dispatch engine to re-submit search requests (“*periodically poll*”), statistics corresponding to the re-submission results are “stored in the statistics database 217” and used by the source optimization process to rank/re-rank the sources. EX1010, 20:5-10, 20:59-67, 24:53-67, 25:11-13; EX1002, ¶¶127-134. Thus, the ranking and re-ranking of sources is “*based on*” the responses received from the sources during the re-submission (scheduled dispatch) of queries and, therefore, is “*based on said*

periodic polling.” EX1002, ¶¶167-168.

Salam does not expressly disclose “*periodically polling*” to determine “*the duration of time for each said web site to respond to a request.*” This limitation is disclosed by Kumar, and it would have been obvious to a POSITA to combine this aspect of Kumar with Salam’s polling and ranking. EX1002, ¶¶170-172.

2. Overview of Kumar

Kumar, filed in 1998 and issued in 2004, qualifies as prior art under §102(e)(2)(pre-AIA). EX1014.

Kumar teaches techniques to provide users with the optimal source of information when multiple possible sources are available. EX1014, Abstract. Sources are ranked in order of preference. EX1014, 1:47-50; EX1002, ¶¶161-164. To determine the rankings, Kumar polls the sites, analyzes the responses, and ranks the sites from most preferred to least preferred based on response speed. EX1014, 6:13-19, 3:55-62; EX1002, ¶¶161-164. This allows the system to automatically use the “next most preferred server” if the most preferred server goes down. EX1014, 3:62-65; EX1002, ¶¶161-164. Kumar treats servers and websites synonymously. EX1014, 3:8-16; EX1002, ¶162.

Because Kumar, like the ’402 patent, discloses a system for ranking websites to provide the end user with the optimal website, Kumar is pertinent to a problem to be solved by the claimed invention in the ’402 patent and, as such, is analogous

art. *Compare* EX1014, Abstract (“The RSD further records responses from servers addressed by the server addresses and then sorts the server addresses according to the responses and data types involved in transactions.”), *with* EX1001, Abstract (“Each of the information sources is assigned a rank number which is listed in the database along with the record for the information source.”); EX1002, ¶165.

3. Kumar Discloses Periodically Polling and Ranking based on Response Time

Kumar teaches polling websites to rank them according to the responses and types of data involved in transactions. EX1014, 2:22-34, 3:9-30, 3:50-65, 4:28-44; EX1002, ¶171. Specifically, Kumar discloses network tests such as “ping” to poll the websites. EX1014, 5:58-65 (“Ping is a common network testing method to determine response time.”); EX1002, ¶171. The websites’ ping responses are recorded, and the websites are sorted based on response time, making the top-ranked website the most preferred. EX1014, 6:11-19; EX1002, ¶171. This list is “updated” and re-sorted regularly. EX1014, 6:21-23, 9:15-22; EX1002, ¶171. A POSITA would have understood that “regularly” updating the list requires “regularly” sending polling/pinging messages to the websites to collect current data. EX1002, ¶172 (citing Kumar, 5:58-65, collecting RSD Metrics “before any transaction takes place”). Further, to maintain reliable rankings, a POSITA would have been motivated to send polling messages “periodically” and without user instruction as claimed. EX1002, ¶172 (explaining that it was well accepted in the

art to implement repeating operations periodically such that the system remains current on a predictable schedule).

4. It would have been Obvious to Combine Kumar with Salam and Loghmani

Each of Salam, Loghmani, and Kumar relates to retrieving information on a network and delivering that content in response to a user's request. EX1002, ¶173. Both Salam and Kumar recognize and seek to address the same fundamental reality: some web locations are better than others for delivering content to a user. EX1002, ¶173. In Salam, the "quality" of sources is based on, among other things, "statistics" about the quantity and quality of results produced in response to prior user requests. *See, e.g.*, EX1010, 9:35-40, 15:20-24, 20:22-30; EX1002, ¶173. In Kumar, the "optimal" website is the one that "is capable of giving the fastest response to a user's request." EX1014, 7:13-15; EX1002, ¶173.

A POSITA would appreciate that Salam's concept of source "quality" would encompass more than strictly the number or relevance of results produced. EX1010, 15:20-22 (referring to "the number, relevancy, and quality" of results, indicating that "quality" encompasses more than simply numeracy and relevancy); EX1002, ¶174. A POSITA would have understood that the "quality" of sources likely encompassed the speed with which sources produced results. EX1002, ¶174. Thus, a POSITA would have been motivated to seek techniques for ranking sources by response time. EX1002, ¶¶47-59, 174-175. The POSITA would find

such techniques in Kumar, which teaches how to identify an “optimal site” “that is capable of giving the fastest response to a user’s request.” EX1014, 3:18-19; EX1002, ¶¶47-59, 174-175.

The Kumar system selects an optimal server from multiple “replicated servers,” which “contain the same information.” EX1014, 1:27-37; EX1002, ¶176. While Salam’s sources are not “replicated,” the sources may nonetheless contain the “same information.” EX1002, ¶176. Specifically, the sources in the “sources database” likely will produce the same or similar answers to a given query. *See* EX1010, 23:24-38 (describing selection of new sources that satisfy “minimum criteria” of results produced); EX1002, ¶176. For example, if queried “What is the capital of Virginia?,” each of the highest-ranked sources is likely to produce the same answer of “Richmond.” EX1002, ¶176. In that sense, each of the sources contains the “same information” that is equally useful to the querying user. EX1002, ¶176. Moreover, even if the sites/replicas in Kumar contain the “same information,” they do not have “identical” behavior because some provide that information faster than others. EX1002, ¶176.

Thus, once a POSITA has utilized Salam’s techniques to assign the highest rankings to sources that are all likely to produce useful responses, the POSITA would have been motivated to utilize Kumar’s techniques to rank those sources according to which will produce a relevant result as quickly as possible. EX1002,

¶¶177-178; *Unwired Planet, LLC*, 841 F.3d at 1003 (identifying a technique’s “potential to improve the device” as a factor supporting obviousness).

C. Ground 3: Claims 1-6 and 8-14 would have been Obvious over Loghmani and Messerly

1. Overview of Messerly

Messerly, filed in 1997 and issued August 24, 1999, qualifies as prior art under §102(a), (b), and/or (e)(2) (pre-AIA). EX1012.

Messerly relates to creating a list of **substantially** identical websites and, if a first requested website is unavailable, accessing a substantially identical site from the list to provide the user with the requested content. EX1012, Abstract; EX1002, ¶¶183-188. Because Messerly, like the ’402 patent, discloses sequentially accessing multiple websites to retrieve requested content, Messerly is in the same field of endeavor as, and analogous art to, the ’402 patent. *Compare* EX1012, Abstract (“[W]hen a uniform resource locator (URL) associated with the hyperlink cannot be resolved or cannot be resolved in a timely fashion, one of the identicals of the desired web page documents may be returned to provide a requesting party with the desired content.”) *with* EX1001, 19:65-67 (“If the information requested by the user cannot be found at this first web site, then the web browsing server 102 will search the second ranked web site”); EX1002, ¶189.

2. Claim 1

Loghmani alone discloses Claims [1.1], [1.2], [1.3], [1.6], and [1.7] for the

reasons discussed in Ground 1 at §VII.A.3. EX1002, ¶¶193-195, 202-203.

[1.preamble] A method for retrieving information from web sites by uttering speech commands into a voice enabled device and for providing to users retrieved information in an audio form via said voice enabled device, said method comprising the steps of:

Loghmani discloses the preamble. EX1002, ¶192. Loghmani teaches using speech recognition to receive voice commands uttered by a user into a telephone to retrieve information from Internet websites and providing the information to users via voice responses. EX1011, 2:53-59, 10:46-49; EX1002, ¶192.

[1.4] said computer accessing at least one of a plurality of web sites associated with said speech command to obtain an information to be retrieved,

Loghmani also discloses Claim [1.4]. EX1002, ¶196. Loghmani's telephony-Internet interface ("TII") (the computer) includes a Telephone Interface Module (TIM) that "performs speech recognition [and] speech-to-text ... conversions" and a Data Presentations Module (DPM) that "converts commands received from the TIM 110 into electronic commands such as HTTP requests" that are submitted to a website to retrieve data items responsive to user queries. EX1011, 8:4-25; EX1002, ¶196.

[1.5] said computer first accessing a first web site of said plurality of web sites and, if said information to be retrieved is not found at said first web site, said computer sequentially accessing said plurality of web sites until said information to be

retrieved is found or until said plurality of web sites has been accessed;

While Loghmani teaches the ability to access multiple websites from the TII, it does not explicitly teach sequentially accessing a plurality of websites as recited in Claim [1.5]. However, as set forth in §VII.C.9, below, a POSITA would have been motivated to implement Messerly's teachings of sequentially accessing a plurality of websites until the information to be retrieved is found with Loghmani's system for retrieving desired information from a website. EX1002, ¶¶197-201.

Messerly teaches that it is common for websites to be unavailable because the Internet constantly changes. EX1012, 1:55-2:10, 4:1-16; EX1002, ¶198. To ensure the user's request is satisfied, Messerly identifies additional websites having content substantially identical to the requested site. EX1012, 4:9-12 ("The exemplary embodiment ... builds a database containing sets of substantially identical data objects, such as web pages."); EX1002, ¶198. Messerly identifies these sites by analyzing their text. EX1012, 5:46-52, 7:5-59, 9:3-59; EX1002, ¶¶184-186, 198. Websites with higher degrees of similarity are given a higher "similarity score," which may be the "dot product of the weight for the weight for [a highest weighted] term in the first web page document with the weight for this term in the second document." EX1012, 9:36-44; EX1002, ¶¶184-186, 198. Websites are considered "identical" if they have a similarity score exceeding a threshold. EX1012, 9:45-49; EX1002, ¶¶184-186. If so, a website is added to a

“list of identicals” in a catalog 52 of an index 38 associated with website. EX1012, 8:59-65, Figure 7; EX1002, ¶¶184-186.

The Messerly system is depicted in Figure 2, annotated below.

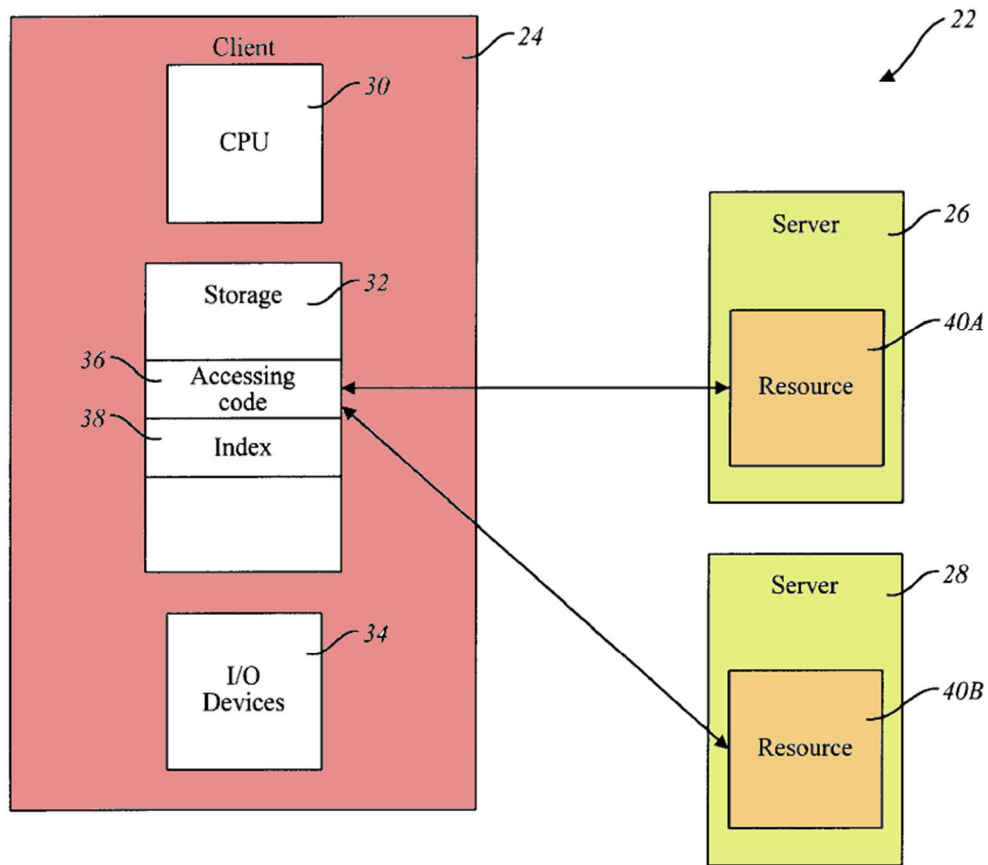


Fig. 2

If the web browser 36 on client computer system 24 (red) is unable to retrieve information from a first website (Resource 40A (orange) on Internet Server 26 (yellow)), the system consults the “list of identicals” from Index 38 to determine a second website (Internet Server 28) to access to obtain the requested information (Resource 40B (orange)). EX1012, 10:66-11:4, 11-23; EX1002, ¶198.

Accordingly, Messerly teaches first accessing a first website (the requested web page) and, if the requested information cannot be retrieved (because the requested web page is unavailable), sequentially accessing a second website from a plurality of websites (the list of identicals) to retrieve the requested information. EX1002, ¶¶198-201.

[1.6] said speech synthesis engine producing an audio message containing any retrieved information from said web sites; and

[1.7] said speech synthesis engine transmitting said audio message to said users via said voice enabled device.

Loghmani discloses that any useful results obtained may be converted from text to speech and delivered to the user via audio message through a telephone.

EX1011, 6:57-65, 7:37-47, 8:29-34, 10:27-43; EX1002, ¶¶202-203.

3. Claim 2

Loghmani discloses Claim 2. *See* Ground 1, §VII.A.4. EX1002, ¶¶204-206

4. Claims 3-4

[3] The method of claim 1 wherein said speech command is further associated with a ranking from highest to lowest associated with each said web site, said ranking indicating the order in which the plurality of web sites are accessed.

[4] The method of claim 3 wherein said computer accesses said plurality of web sites based on said ranking, said computer first accessing said web site having the highest ranking.

As described above in §§VII.C.1-2, Messerly discloses, if a web browser is unable to retrieve content from a first website, accessing a second website from a

list of substantially identical websites identified based on a “similarity value” between the sites. EX1012, 9:29-39, 10:66-11:23; EX1002, ¶¶184-186. More than one “substantially identical” website can be identified for a given web page, and each will likely have a different similarity score. EX1012, 8:59-65, 10:48-54, 11:32-35; EX1002, ¶¶184-186.

While Messerly does not explicitly disclose ranking the list of identical websites based on their similarity scores and first accessing the website with the highest similarity score, this would have been obvious to a POSITA. EX1002, ¶¶198-200, 207-211. Indeed, the stated goal of Messerly’s system is to provide the user with the desired content requested if the first web site is unavailable. EX1012, Abstract; EX1002, ¶207. Ranking the websites by similarity score and first accessing the website with the highest similarity score would have been obvious and the best way to achieve Messerly’s goal. EX1002, ¶¶207-210. Further, this is how information retrieval systems worked at the relevant time. EX1002, ¶¶47-59.

Therefore, it would have been obvious to a POSITA to program the web browser to access additional websites in order of the document similarity score if the browser cannot retrieve the desired content from any of the higher-ranked sites, and the POSITA would have had a reasonable expectation of success. EX1002, ¶211.

5. Claims 5-6, 8

[5] The method of claim 4 further comprising the step of adjusting said rankings associated with said plurality of web sites such that said web site having said information to be retrieved is assigned the highest ranking and any web sites not having said information to be retrieved are assigned lower rankings.

[6] The method of claim 1 further comprising the step of periodically polling each said web site to determine whether said web site contains said information to be retrieved.

[8] The method of claim 1 further comprising the step of periodically searching said internet to find new web sites containing said information to be retrieved, and adding said new web sites to said plurality of web sites.

As discussed in §VII.C.4 above, it would have been obvious to a POSITA to rank the substantially identical websites in Messerly's list of identicals in order of the document similarity score. EX1002, ¶¶207-213.

Patent Owner contends that crawling a website to create an index meets the requirement of "periodically polling each said web site to determine whether the web site contains said information to be retrieved." EX1006, Cl. 6 at p. 78, Cl. 8 at p. 88. For purposes of this Petition only, Petitioner does not contest this point.

Messerly discloses a "web crawler" that "crawls web sites as a background process" and, in doing so, "enables the index 38 to be incrementally updated." EX1012, 6:55-63; EX1002, ¶¶188, 214-217. Messerly's web crawler "locates changes **in content on web sites**" and thus "*determine[s] whether the web site contains information to be retrieved.*" EX1012, 6:55-63 (emphasis added);

EX1002, ¶¶214-217. A POSITA would have understood that Messerly's web crawler would periodically check for changes in websites (i.e., "*information to be retrieved*") especially because Messerly recognizes that the Internet is frequently changing. EX1012, 1:50-64; EX1002, ¶¶214-217.

Turning to Claim 8, the web crawler "locates newly added data objects, such as web page documents." EX1012, 6:55-63; EX1002, ¶¶218-219. When a document is identified by the web crawler as a new document, the system identifies the weights of terms within the document, which can be used to determine the document similarity score for the newly identified page. EX1012, 6:63-8:65 ("Features are then extracted from the new data object and tokenized.... [T]he tokens are used to build the dictionary 48 and the occurrence streams 50 ... As part of the creation of the occurrence streams 50, each term must be assigned a weight ... Given the weights for each of the terms within each of the documents, the exemplary embodiment of the present invention then calculates which web page documents are identical."); EX1002, ¶¶218-219. A POSITA would have understood that if the web crawler identifies changed web page content, the same evaluation would be performed—that is, features of the updated web page (terms within the text of the web page document) would be extracted, tokenized, and used to reevaluate the updated document's similarity score. EX1002, ¶¶218-219.

If a newly identified web page has a document similarity score greater than

any previously identified document, it would have been obvious to a POSITA to assign the page a ranking higher than any of the previously identified identicals. EX1002, ¶¶214-215. With the addition of the new page as the most preferred identical, the ranking of the previously identified identicals would be lowered accordingly. EX1002, ¶¶214-215.

Accordingly, Messerly's combination of using a web crawler to identify new/changed web pages and using document-processing techniques to evaluate the documents teaches (a) periodically polling websites to determine whether the sites contain information to be retrieved, (b) periodically searching the internet to find new websites containing information to be retrieved, and (c) adjusting the rankings of the websites such that sites with the highest degree of document similarity are maintained at the top of the list of identicals. EX1002, ¶¶214-219.

6. Claim 9

As demonstrated in the chart in §VII.A.9, most of the elements of Claim 9 are found in Claims 1-5 and are taught by the Loghmani/Messerly combination for the reasons provided in §VII.A.1-6.

One difference is that Claim 9 recites a "*phone*," which Loghmani discloses because it "allows telephone callers to access online databases and electronic shopping carts." EX1011, 2:49-55.

The other difference is Claim 9's "*database operatively connected to said*

computer, said database containing a plurality of web site addresses.” Messerly discloses “[a] database, denoted as an ‘index’ 38, “which contains information regarding what web pages are substantially identical to each other.” EX1012, 5:36-39; EX1002, ¶223. The index includes a “catalog 52,” which stores “property information regarding web page documents ... including the uniform resource locator (URL) for the document.” EX1012, 6:34-45; EX1002, ¶223.

7. Claims 10-13

[10] The system of claim 9 wherein said phone comprises a standard telephone, a cellular phone, or an IP phone.

[11] The system of claim 9 wherein said internet is a local area network.

[12] The system of claim 9 wherein said internet is a wide area network.

[13] The system of claim 9 wherein said internet is the Internet.

Loghmani discloses using a “telephone” or “VOIP” to access an online catalogue or other database and, therefore, teaches Claim 10. EX1011, Abstract; 7:56-58, 4:18-26, 10:57-59; EX1002, ¶230. Messerly teaches a “computing environment” that includes “an Internet connection” or “may include network resources located on a local or wide area network,” thus teaching Claims 11-13. EX1012, 5:11-19, 4:17-34; EX1002, ¶¶231-233.

8. Claim 14

[14] The system of claim 9 wherein said computer is configured to establish or adjust said rankings associated with said

plurality of web sites when instructed by said user to access said plurality of web sites to retrieve said information.

As discussed in §VII.C.4, Messerly discloses identifying one or more web pages containing substantially similar content to a requested web page based on a similarity score, and it would have been obvious to a POSITA to assign these substantially similar web pages a ranking based on the similarity score. EX1002, ¶¶234-235. And, as discussed in §VII.C.5, it would have been obvious to a POSITA to adjust these rankings based on, for example, changes to a web page or identification of new web pages. EX1002, ¶¶214-219.

Messerly further teaches that the “calculation of identical documents” may be performed “upon demand (i.e., after a broken link arrives).” EX1012, 11:35-38; EX1002, ¶¶234-235. Accordingly, if this calculation is being performed “upon demand,” the ranking of the websites would occur “*when instructed by said user*” to retrieve the requested information. EX1002, ¶234. Thus, Claim 14 would have been obvious over the Loghmani/Messerly combination. EX1002, ¶¶234-235.

9. It would have been obvious to combine Loghmani and Messerly

Both Loghmani and Messerly are directed to systems for retrieving information from the Internet in response to user commands. *Compare* EX1011, 2:55-59 (“The telephony-Internet interface converts spoken queries into text for electronic commands transmitted to online shops or shopping carts, and converts

requested information from markup language pages to audio messages for callers.”) *with* EX1012, Abstract (“[W]hen a uniform resource locator (URL) ... cannot be resolved or cannot be resolved in a timely fashion, one of the identicals of the desired web page documents may be returned to provide a requesting party with the desired content.”); EX1002, ¶189.

A POSITA would have been motivated to provision Loghmani’s telephony-Internet interface for searching an online shop (website) with Messerly’s sequential-access and ranking/polling techniques such that: (1) multiple online shops would be available to serve a user’s request if the first online shop is not available; and (2) the alternative shops would be accessed in order of similarity of content such that the user would get the best possible content if the original shop were not available. EX1002, ¶201. A POSITA would have understood that Messerly’s techniques could be applied to improve Loghmani’s system and improve the resiliency of, and users’ experience with, Loghmani’s system. *See Unwired Planet, LLC*, 841 F.3d 995 at 1003 (holding that a POSITA would have been motivated to combine an information-retrieval system with another reference relating to presentation of information because doing so would improve information display for the user); EX1002, ¶¶48-59, 201. Indeed, Loghmani’s system was already capable of connecting with multiple online shops. EX1011, 8:37-39 (“The IIM handles multiple connections to different sites (e.g., online

shops).”); EX1002, ¶¶201. Combining Loghmani and Messerly would have improved the likelihood that a user would successfully retrieve the desired information. EX1002, ¶¶48-59, 201; *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007); *Norgren Inc. v. ITC*, 699 F.3d 1317, 1326 (Fed. Cir. 2012) (adding functionality to a device was a “common sense solution” that would make the product “easier to use”).

Accordingly, the Loghmani/Messerly combination renders obvious the limitations of Claims 1-6, and 8-14.

D. Ground 4: Claims 3-5 and 9-14 would have been Obvious over Loghmani, Messerly, and Culliss

1. Overview of Culliss

Culliss, filed in 1998 and issued June 20, 2000, qualifies as prior art under at least §102(e)(2)(pre-AIA). EX1013.

Culliss teaches ranking a plurality of web sites (“articles”) associated with a user’s query. EX1013, 5:5-9, 6:29-40; EX1002, ¶¶236-237. Because Culliss, like the ’402 patent, discloses ranking a plurality of web sites to provide a user with desired content, Culliss is in the same field of endeavor as, and analogous art to, the ’402 patent. *Compare* EX1013, Abstract (“The invention operates by assigning scores to articles under key term components in the index.... The scores are then used in subsequent searches to organize the articles that match the query.... [T]he present invention uses this search activity to rank information available over the

Internet through an evolutionary process.”) *with* EX1001, Abstract (“Each of the information sources is assigned a rank number which is listed in the database along with the record for the information source. In response to a speech command received from a user, a network interface system accesses the information source with the highest rank number in order to retrieve information requested by the user.”); EX1002, ¶241.

2. Claims 3-5, 9-14

Each of Claims 3-5 and 9-14 recites a “*ranking from highest to lowest associated with each said web site.*” For the reasons provided in Ground 3 at §§VII.C.4-9, this limitation would have been obvious to a POSITA over Loghmani/Messerly. However, the addition of Culliss to this combination even more clearly illustrates the obviousness of the ranking limitations of these claims.

In Messerly, substantially identical websites are identified by generating a “similarity value” based on the content of the sites. EX1012, 9:29-39; EX1002, ¶¶184-186, 243-244. The sites are compiled in a list, and a web browser sequentially accesses websites based on that list. EX1012, 11:2-23, 8:59-65, 11:32-35; EX1002, ¶¶184-186, 198-201.

Like Messerly, Culliss teaches scoring websites based on key terms within the websites. *Compare* EX1012, 9:36-39 (“The document similarity value is initially calculated as the dot product of the weight for the term in the first web

page document with the weight for this term in the second document”) *with* EX1013, 5:19-21 (“a key term score is associated with each article for each of the key terms”); EX1002, ¶¶237-239. Culliss uses these scores to create (and, subsequently, to modify) web page rankings. EX1013, 6:37-40 (teaching that the ranking is generated “in order of comparison score superiority, such as by displaying the matched article with the highest comparison score first”), 7:54-56; EX1002, ¶¶237-241, 244-245. Then, “[f]or the next search by either the same or a different user, the invention could then rank the matched articles by using the key term scores[.]” EX1013, 6:29-31; EX1002, ¶¶244-245.

A POSITA would have been motivated to use Culliss’s score-ranking feature to rank Messerly’s list of identical sites from highest to lowest similarity score. EX1002, ¶¶47-59, 246-249. In this combination, Messerly’s system would first access the website with the highest similarity score. EX1002, ¶¶246-249. Applying Culliss’s ranking process to Messerly’s list of identical sites would have maximized the chances that the user would receive a website containing the most similar content to the requested website, thereby increasing the desirability of the system, and motivating the combination. EX1002, ¶¶246-249.

Moreover, a POSITA would have been motivated to combine Loghmani with Messerly and Culliss to provide a voice interaction system capable of providing the best answers to user queries. EX1002, ¶¶40-59, 248-249. Like

Loghmani and Messerly, Culliss teaches techniques for improving the ability to respond to user requests for information. EX1002, ¶¶248-249. Just as a POSITA would have been motivated to combine Messerly's teaching of "sequential access" with Loghmani's voice interaction system to improve user experience in the event of an unavailable or non-responsive website, a POSITA would have been motivated to combine Culliss's teachings to rank websites based on Messerly's similarity scores to provide the user with the most responsive information. EX1002, ¶¶248-249. Accordingly, Claims 3-5 and 9-14 would have been obvious over the Loghmani/Messerly/Culliss combination. EX1002, ¶249.

E. Ground 5: Claims 7 and 15 would have been Obvious over Loghmani, Messerly, Culliss, and Kumar

[7] The method of claim 6 wherein the computer periodically polls each said web site without being instructed by said user to determine the availability of each said web site, the duration of time for each said web site to respond to a request from said computer, and changes to the location of said information to be retrieved from each said web site, said computer creating a ranking of said plurality of web sites based on said periodic polling.

[15] The system of claim 9 wherein said computer is configured to establish or adjust said rankings associated with said plurality of web sites based on periodic polling of each of said web sites without being instructed by said user to determine the availability of each said web site, the duration of time for each said web site to respond to a request from said computer, and changes to the location of said information to be retrieved from each said web site.

As discussed in §§VII.B.2-3, Kumar discloses polling websites to rank them

according to the response time and types of data involved in transactions with the websites. EX1014, 2:22-34, 3:9-30, 3:50-65, 4:29-45; EX1002, ¶¶160-164.

Similarly, Culliss maintains a list of matched web pages and monitors certain performance metrics for the web pages, including availability (checking for a 404 error), response time (in connection with calculating a net time spent reviewing an article), and location (whether an article exists at another location), and the web pages' scores are altered based on these metrics. EX1002, ¶¶257-263. For example, the score for a key term can be altered based upon whether website is still available (a "404 Error") or whether it has changed location ("whether a matched article no longer exists at a certain URL *or other location*"). EX1013, 14:61-67; EX1002, ¶¶257-263. The scores may also be altered based upon the length of time a user has viewed an article. EX1013, 14:45-54; EX1002, ¶¶257-263. A net time spent by a user inspecting an article is tracked and is calculated "to exclude any time delay in getting the article" (i.e., *duration of time for a website to respond to a request*). EX1013, 14:45-54; EX1002, ¶¶257-263.

A POSITA would have been motivated to modify Messerly's system to use Culliss's and Kumar's polling/ranking mechanisms to regularly update the ranking of Messerly's list of identical websites based on availability, response time, and content location—in addition to ranking by similarity scores—thereby increasing the speed, accuracy, and responsiveness of the system. EX1002, ¶¶257-263. Such a

modification would have been applying known techniques (Kumar’s polling and Culliss’s ranking) to the similar systems of Loghmani and Messerly. EX1002, ¶¶47-59, 257-263. A POSITA would have understood that websites are constantly changing, and that the database list of ranked websites would need to be updated often to keep up with the changing information sources. EX1002, ¶¶47-59, 257-263.

VIII. PTAB DISCRETION UNDER §314(A) SHOULD NOT PRECLUDE INSTITUTION

A. Discretionary denial under the *Fintiv* factors is not appropriate.

The *Fintiv* analysis strongly favors institution in light of the following stipulation: If instituted, Petitioner will not pursue in District Court the specific grounds asserted here, or on any other ground that was raised or could have been reasonably raised in this IPR. The USPTO director stated in the June 21, 2022 memorandum on discretionary denials (“Memo”), “the PTAB will not discretionarily deny institution in view of parallel district court litigation where a petitioner presents a stipulation not to pursue in a parallel proceeding the same grounds or any grounds that could have reasonably been raised before the PTAB.” Memo, 3. Accordingly, discretionary denial is inappropriate here.

B. Discretionary denial under *General Plastic* is not appropriate

The ’402 patent is the subject of ongoing IPR proceedings filed by Microsoft Corporation (“Microsoft”) and Google LLC (“Google”)¹, who like

¹ For similar reasons

Petitioner Apple, are defendants in district court litigation. Google filed IPR2022-00523 on February 1, 2022, and Microsoft filed IPR2022-00804 on April 6, 2022. Google's IPR was instituted on August 4, 2022. Microsoft's IPR was instituted on November 4, 2022.

Apple, Microsoft, and Google are unrelated entities. There is no overlap of the asserted grounds and references between this petition and Google's petition. The Board did not discretionarily deny Microsoft's IPR in view of Google's petition. For the same reasons, the Board should not discretionarily deny this copycat petition in view of Google's IPR.

With respect to Microsoft's IPR, the Board should not discretionarily deny this copycat petition because application of the *General Plastic* framework weighs in favor of institution, particularly considering that the facts here are distinguishable from *Apple Inc. v. Uniloc 2017 LLC* IPR2020-00854 (PTAB Oct 28, 2020) (precedential) ("*Uniloc*").

1. Whether the petition is directed to the same claims of the same patent.

This copycat petition challenges claims 1-15 of the '402 patent like Apple's first petition. However, regardless of whether this factor weighs against institution, the totality of factors as outlined below weigh in favor of institution. *Google LLC v. Express Mobile Inc.* IPR2022-00791, Paper 15 (PTAB October 7, 2022) ("*Express Mobile*") (granting institution of a second, copycat petition after

denial of a first petition on the same claims).

2. Whether at the time of filing of the first petition the petitioner knew of the prior art asserted in the second petition.

The *General Plastic* framework addresses the situation where a petitioner files serial petitions in “an attempt to cure the deficiencies that the Board identified in its first-filed petitions.” *General Plastic Indus. Co., Ltd. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19 at 11 (PTAB Sept. 6, 2017) (precedential) (“*General Plastic*”). “The filing of sequential attacks against the same claims, with the opportunity to morph positions along the way, imposes inequities on [Patent Owner].” *Id.*

In contrast, Apple is not curing deficiencies or morphing positions from its first IPR. Rather, Apple is seeking to join a petition that was filed *before* its own petition was filed, which Apple had no part in preparing, and which has been instituted. *See Express Mobile*, 9 (“This ‘me-too’ Petition is not a new ‘serial attack,’ but rather an attempt to join a proceeding that has already been instituted”). The Board noted in *Express Mobile* that an “explanation of the facts relevant to the second *General Plastic* factor” distinguishes *Uniloc*. *See Express Mobile*, 8. Here, like in *Express Mobile*, Petitioner provides an explanation of the facts as follows.

This copycat petition uses the same prior art as Microsoft’s IPR, which was filed only one month *before* Apple filed its first petition. Apple worked diligently

to prepare its first petition since being sued on September 17, 2021. When Microsoft filed its IPR, making Apple aware of the prior art combinations therein as relevant to the '402 patent, Apple was nearing completion of its own IPR. At that time, Apple's district court litigation had a scheduled trial date of October 12, 2023, and the expected date of any Final Written Decision ("FWD") from a petition filed in May, 2021 was November, 2023. Accordingly, Apple could not have been reasonably expected to rework its petition with the entirely different art combinations from Microsoft's IPR because any delays in filing would have increased the likelihood of discretionary denial under the Board's *Fintiv* framework by continuing to move the expected FWD date further after the scheduled trial.²

Thus, because Apple is not curing deficiencies from its first IPR—and because Petitioner has provided a detailed explanation of the facts surrounding when it became aware of the prior art from the second petition—this factor weighs in favor of institution.

3. Patent owner's preliminary response and the Board's institution decision of the first petition.

Petitioner gains no benefit from the patent owner preliminary response or Board's decision in its first IPR. This second, copycat petition is identical in

² Director Vidal had not yet issued the Memorandum of June 22, 2022 that updated the *Fintiv* framework to consider median time-to-trial statistics.

substance to Microsoft’s IPR that was filed before Apple’s first IPR. *See Express Mobile*, 9 (“there is no reason to conclude that Petitioner used the filings or decision [of its first IPR] to obtain an unfair advantage in this Petition, which was essentially prepared by someone else”). Therefore, this factor weighs in favor of institution.

4. Time elapsed between the first and second petitions.

When assessing this factor, it is not reasonable to expect petitioner to file a second, copycat petition while its first petition is still pending. *See Express Mobile*, 12. Here, Apple files this petition within two days after its first IPR was terminated. This factor weighs against discretionary denial.

5. Petitioner’s explanation for the time elapsed between the filings of multiple petitions.

As noted in factors 3 and 4, Petitioner is acting reasonably by filing this second, copycat petition within the time allotted by the rules. Accordingly, this factor also weighs against discretionary denial.

6. The finite resources of the Board.

This petition does not require any more resources from the Board other than what the Board already allocated for Microsoft’s IPR when they granted institution. *See Express Mobile*, 12 (“we find that Board resources are not a concern here because this panel has the capacity to see the Facebook IPR to its conclusion regardless of the constitution of the petitioner”). This factor weighs against discretionary denial.

7. The totality of factors favor institution.

Factors 2-6 weigh in favor of institution. Accordingly, petitioner respectfully requests that the Board institute this petition.

IX. NO BASIS EXISTS FOR DISCRETIONARY DENIAL UNDER 35 U.S.C. §325(D)

Discretionary denial under 35 U.S.C. §325(d) is not appropriate here.

While Loghmani was cited by Patent Owner in a 12-page IDS with approximately 300 other references (EX1004, pp.62-73)—Salam, Kumar, Messerly, and Culliss and the combinations relied on herein were not previously presented. Thus, this Petition’s specific arguments were not before the Examiner during prosecution, nor did the Examiner have the benefit of Dr. Jacobs’s testimony (EX1002). Thus, there is no overlap between arguments made during examination and this Petition, and the first part of the *Advanced Bionics* is not met. *See Advanced Bionics, LLC v. Med-El Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential).

Nothing in the record indicates that the Examiner substantively considered Loghmani; it was neither used in a rejection nor discussed. EX1004. Instead, the sole rejection was obviousness-type double patenting, which was overcome with a terminal disclaimer. EX1004, pp.107-110.

X. CONCLUSION

For the foregoing reasons, Petitioner requests cancellation of all Challenged Claims.

Respectfully submitted,

Dated: December 4, 2022

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XI. MANDATORY NOTICES UNDER 37 C.F.R. §42.8(A)(1)

A. Real Party-In-Interest Under 37 C.F.R. §42.8(b)(1)

Pursuant to 37 C.F.R. § 42.8(b)(1), Petitioner certifies that the real party-in-interest is Apple Inc.

B. Related Matters Under 37 C.F.R. §42.8(b)(2)

The '402 patent is the subject of an ongoing litigation in *Parus Holdings Inc. v. Microsoft Corporation*, 6:21-cv-570 (W.D. Tex.); *Parus Holdings Inc. v. Google, LLC*, 6:21-cv-571 (W.D. Tex.); *Parus Holdings Inc. v. Apple Inc.*, 6:21-cv-968 (W.D. Tex.); *Parus Holdings Inc. v. Samsung Electronics America, Inc.*, 6:21-cv-1073 (W.D. Tex.); and *Parus Holdings Inc. v. Apple Inc.*, 3:22-cv-07514 (N.D. Cal.). The '402 patent is also the subject of *Google LLC v. Parus Holdings Inc.*, IPR2022-00523 (PTAB); *Apple Inc. v. Parus Holdings, Inc.*, IPR2022-00949 (PTAB); *Microsoft Corp. v. Parus Holdings Inc.*, IPR2022-00804 (PTAB), *Samsung Electronics America, Inc. v. Parus Holdings, Inc.*, IPR2022-01502 (PTAB).

C. Lead and Back-Up Counsel and Service Information

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Please address all correspondence in this proceeding to lead and back-up counsel. Petitioner consents to service in this proceeding by email at the addresses above.

CERTIFICATION UNDER 37 CFR §42.24

Under the provisions of 37 CFR §42.24(d), the undersigned hereby certifies that, in accordance with and reliance on the word count provided by the word-processing system used to prepare this Petition, the word count for the foregoing Petition for *Inter Partes* Review totals 13,841 words, which is less than the 14,000 allowed under 37 CFR §42.24. Pursuant to 37 C.F.R. §42.24(a), this word count is in compliance and excludes the table of contents, table of authorities, mandatory notices under §42.8, certificate of service, certificate of word count, appendix of exhibits, and any claim listing. This word count was prepared using Microsoft Word.

Dated: December 4, 2022

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR §§42.6(e)(4)(i) et seq. and 42.105(b), the undersigned certifies that on December 4, 2022, a complete and entire copy of this *Petition for Inter Partes Review* and all supporting exhibits were provided, via Federal Express, to the Patent Owner by serving the correspondence address of record as follows:

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