

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

PARUS HOLDINGS INC.,
Patent Owner.

Case No. TBD
Patent No. 9,769,314

**DECLARATION OF STUART J. LIPOFF IN SUPPORT OF
PETITION FOR INTER PARTES REVIEW
UNDER 35 U.S.C. §§ 311-319 AND 37 C.F.R. § 42.1 et seq**

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b.	1[Pre(ii)]/6[Pre(ii)]/11[Pre(ii)]: over a network, by speech commands received from a particular user of a plurality of users[, provided by the particular user via an electronic-communication device, and]	40
c.	1[Pre(iii)]/6[Pre(iii)]/11[Pre(iii)]/19[A(i)(b)]: wherein each of the plurality of users has a respective electronic-communication device[, said [method/system] comprising:]	41
d.	1(a)[(i)(A)]/11(a)[(i)(A)]: receiving a speech command[,] from each of the plurality of users provided via the respective electronic-communication device, 6(a)[(i)(B)]/19(a)[(i)(B)]: [the speech-recognition engine] adapted to receive a speech command from [each/a particular user] of [the/a] plurality of users [provided] via [the/an] [respective] electronic-communication device [to access desired information], ...	42
e.	1(a)[(i)(B)]/11(a)[(i)(B)]: [by] [a/the] speech-recognition engine coupled to a media server, 6(a)[(i)(A)]/19(a)[(i)(A)]: a speech-recognition engine	

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h.	1(b)[(i)]/6(b)[(i)]/11(b)[(i)]/19(b)[(i)]: [selecting, by] the media server[,] [further configured to/adapted to] [select] at least one information-source-retrieval instruction corresponding to the speech-recognition grammar established for a particular speech command,.....	48
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j.	1(c)/6(c): [accessing, by] a web-browsing server[,] [coupled to the media server and adapted to access] a portion of the information source to retrieve information of interest requested by the particular user, by using a processor of the web-browsing server, which processor 11(c)/19(c): [providing access, by the speech command, via] a web-browsing server, [adapted to provide access, by the speech command,] to a portion of the information source to retrieve the desired information[,] [for the particular user,] by using a processor of the web-browsing server, which process[or].....	52

- k. 1(c)[(i)]/6(c)[(i)]/11(c)[(i)]/19(c)[(i)]: performs an instruction that requests information from an identified webpage, and..... 54
- l. 1(c)[(ii)]/6(c)[(ii)]/11(c)[(ii)]/19(c)[(ii)]: utilizes a content extractor within the web-browsing server to separate a portion of the information from other information, the information [is] derived from only a portion of [the/a] webpage containing information of interest to [the/a] particular user, ... 54
- m. 1(c)[(iii)]/6(c)[(iii)]/11(c)[(iii)]/19(c)[(iii)]: wherein the content extractor uses a content-descriptor file containing a description of the portion of information and wherein the content-descriptor file indicates a location of the portion of the information within the information source[;/,] [and] 57
- n. 1(d)/6(c)[(iv)]/11(d)/19(c)[(iv)]: [and] selecting[, by the web-browsing server[, the [desired] information [of interest] from the [appropriate] information source and retrieving only the portion of the information [of interest requested/desired] by the particular user according to the at least one information-source-retrieval instruction; [and] 59
- o. 1(e)/11(e): converting the information retrieved from the information source into an audio message by a speech-synthesis engine, the speech-synthesis engine coupled to the media server; [and] 6(d)[(i)]/19(d)[(i)]: a speech-synthesis engine [including a processor and] coupled to the media server, [the speech-synthesis engine/and] adapted to convert the [portion of the] information [retrieved] from the information source into an audio message [and/for the particular user of the plurality of users] 60
- p. 1(f)/6(d)[(ii)]: transmit[ting] the audio message [to/by] the electronic-communication device of the particular user requesting information of interest to the particular user. 11(f)/19(d)[(ii)]: [and] conveying the audio message through the electronic-communication device to the [respective electronic-communication device of

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c.	3[B]/8[B]: and [wherein] the media server is operatively connected to [the network, which is] at least one of a local-area network, a wide-area network, and the internet. 13[B]/22: [The system of claim 19,] [and] wherein the media server is operatively connected to the network, which is at least one of a local-area network, a wide area network, and the internet.	67
d.	4/9/17: The [method/system] of claim [1/6/11], wherein the media server functions as a user-interface system adapted to provide access to a voice-browsing system.	67
e.	5: The method of claim 1, further comprising: clipping engine adapted to initially generate the content- descriptor file that indicates the location of the portion of the information within the information source. 10[A]/18[A]: The method of claim [6/11], further comprising: clipping engine [adapted to generate/coupled to] the content-descriptor file, ... wherein the information is only the portion of the	

	webpage containing information of interest to the particular user.....	68
f.	10[B]/18[B]: by which, [an/the] instruction [is used by the web-browsing server to] request[s] information from the identified website and the information is displayed on the respective electronic-communication device, ...	71
g.	7/12/20: The [system/method] [of] claim [6/11/19], further comprising: an interface to [a plurality of/an] associated website[s] [of the information source] by the network to locate [requested/the desired] information.....	72
h.	14/23: The [method/system] of claim [11/19], [wherein the web-browsing server further comprises the content-descriptor file, which is stored within the web-browsing server,] wherein the content-descriptor file relates to obtaining the desired information from a website.	73
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a.	1[Pre(i)]/6[Pre(i)]/11[Pre(i)]/19[Pre(i)]: A[n] [method/system/information-retrieval system]...[comprising:]	77
b.	1[Pre(ii)]/6[Pre(ii)]/11[Pre(ii)] through 1(b)[(i)]/6(b)[(i)]/11(b)[(i)]/19(b)[(i)], 1(c)/6(c)/11(c)/19(c) through 1(c)[(i)]/6(c)[(i)]/11(c)[(i)]/19(c)[(i)], and 1(e)/11(e)/ 6(d)[(i)]/19(d)[(i)] through 1(f)/6(d)[(ii)]/ 11(f)/19(d)[(ii)]	78
c.	1(b)[(ii)]/6(b)[(ii)]/11(b)[(ii)]/19(b)[(ii)]: the at least one [appropriate] information-source-retrieval instruction stored in a database...;	78
d.	1(c)[(ii)]/6(c)[(ii)]/11(c)[(ii)]/19(c)[(ii)]: utilizes a content extractor...,	79
e.	1(c)[(iii)]/6(c)[(iii)]/11(c)[(iii)]/19(c)[(iii)]: wherein the content extractor uses a content-descriptor file...[;][,]	81
f.	1(d)/6(c)[(iv)]/11(d)/19(c)[(iv)]: [and] selecting[,] by the web-browsing server[,] the [desired] information [of interest]...[;][and]	81
g.	11(g)/19(e): [providing] a graphical display...	83
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a.	2: The method of claim 1, further comprising: searching, by the media server, an associated website to locate requested information.	86
b.	Claims 3, 4, 8, 9, 13-17, and 21-25	87
c.	5: The method of claim 1, further comprising: clipping engine... 10[A]/18[A]: The method of claim [6/11], further comprising: clipping engine	87
d.	10[B]/18[B]: by which, [an/the] instruction [is used by the web-browsing server to] request[s] information.	90
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1.	A POSITA would have been motivated to combine the teachings of Wise and Woods and would have had a reasonable expectation of success in doing so.....	92
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LISTING OF EXHIBITS

Exhibit	Description
1001	U.S. Patent No. 9,769,314
1002	Declaration of Stuart J. Lipoff
1003	Curriculum Vitae of Stuart J. Lipoff
1004	INTENTIONALLY LEFT BLANK
1005	INTENTIONALLY LEFT BLANK
1006	U.S. Patent No. 5,765,149 (“Burrows”)
1007	U.S. Patent No. 5,884,262 (“Wise”)
1008	INTENTIONALLY LEFT BLANK
1009	INTENTIONALLY LEFT BLANK
1010	INTENTIONALLY LEFT BLANK
1011	INTENTIONALLY LEFT BLANK
1012	U.S. Patent No. 6,510,417 (“Woods”)
1013	U.S. Patent No. 5,761,662 (“Dasan”)
1014	U.S. Patent No. 5,915,001 (“Uppaluru”)
1015	U.S. Patent No. 6,587,822 (“Brown”)
1016	INTENTIONALLY LEFT BLANK
1017	INTENTIONALLY LEFT BLANK
1018	INTENTIONALLY LEFT BLANK
1019	INTENTIONALLY LEFT BLANK
1020	Claim Mapping Table
1021	Prosecution History of U.S. Patent Application 15/193,517 (U.S. Patent 9,769,314)
1022	U.S. Patent 5,855,020
1023	U.S. Patent 6,085,160
1024	U.S. Patent 6,434,524

1025	McGraw-Hill Electronics Dictionary (6th ed. 1997) (“McGraw-Hill”)
1026	INTENTIONALLY LEFT BLANK
1027	INTENTIONALLY LEFT BLANK
1028	INTENTIONALLY LEFT BLANK
1029	Petitioner’s Stipulation Letter to Patent Owner, dated April 4, 2022
1030	INTENTIONALLY LEFT BLANK
1031	INTENTIONALLY LEFT BLANK
1032	U.S. Patent 6,418,433 (“Chakrabarti”)
1033	Evolution of Magnetic Storage by L.D. Stevens (1981)
1034	U.S. Patent No. 6,285,999
1035	Scientific American: Feature Article: “Hypersearching the Web”: June 1999 by Members of the Clever Project (https://www.cs.cornell.edu/home/kleinber/sciam99.html)
1036	“NLP Meets the Jabberwocky: Natural Language Processing in Information Retrieval” by Susan Feldman, May 1999
1037	“Information Retrieval on the Web” by MEI KOBAYASHI and KOICHI TAKEDA, IBM Research, ACM Computing Surveys, Vol. 32, No. 2, June 2000
1038	INFORMATION RETRIEVAL USING STATISTICAL CLASSIFICATION by Hull – 1994
1039	Search Engines for the World Wide Web: A Comparative Study and Evaluation Methodology, by Heting Chu and Marilyn Rosenthal, 1996
1040	INTENTIONALLY LEFT BLANK
1041	INTENTIONALLY LEFT BLANK
1042	INTENTIONALLY LEFT BLANK
1043	INTENTIONALLY LEFT BLANK
1044	INTENTIONALLY LEFT BLANK
1045	INTENTIONALLY LEFT BLANK
1046	INTENTIONALLY LEFT BLANK

1047	Provisional Application No. 60/180,343
1048	Comparison of Provisional Application No. 60/180,343 and Application No. 09/777,406

I. INTRODUCTION

1. I have been retained by Google LLC (“Google” or “Petitioner”) as an independent expert consultant in this *inter partes* review (“IPR”) proceeding before the United States Patent and Trademark Office (“PTO”).

2. I have been asked by Google Counsel (“Counsel”) to consider whether certain references teach or suggest the features recited in Claims 1-26 (the “challenged claims”) of U.S. Patent No. 9,769,314 (“the ’314 patent”) (Ex-1001). My opinions and the bases for my opinions are set forth below.

3. I am being compensated at my ordinary and customary consulting rate for my work, which is \$375 per hour. My compensation is in no way contingent on the nature of my findings, the presentation of my findings in testimony, or the outcome of this or any other proceeding. I have no other financial interest in this proceeding.

II. BACKGROUND AND QUALIFICATIONS

4. All of my opinions stated in this declaration are based on my own personal knowledge and professional judgment. In forming my opinions, I have relied on my knowledge and experience in designing, developing, researching, and teaching the technology referenced in this declaration.

5. I am over 18 years of age and, if I am called upon to do so, I would be competent to testify as to the matters set forth herein. I understand that a copy of

my current curriculum vitae, which details my education and professional and academic experience, is being submitted as Ex-1003. The following provides a brief overview of some of my experience that is relevant to the matters set forth in this declaration.

6. I am currently president of IP Action Partners Inc., a consulting practice that serves the telecommunications, information technology, media, electronics, and e-business industries.

7. I earned a Bachelor of Science degree in Electrical Engineering in 1968 and a second Bachelor of Science degree in Engineering Physics in 1969, both from Lehigh University. I earned a Master of Science degree in Electrical Engineering from Northeastern University in 1974, and then a Master of Business Administration degree from Suffolk University in 1983.

8. I hold a Federal Communications Commission (“FCC”) General Radiotelephone License. I also hold a Certificate in Data Processing from the Institute for the Certification of Computing Professionals (“ICCP”), which is supported by the Association for Computing Machinery (“ACM”).

9. I am also a registered professional engineer (PE) in the Commonwealth of Massachusetts and in the State of Nevada.

10. I am a fellow of the Institute of Electrical and Electronics Engineers (“IEEE”) Consumer Electronics, Communications, Computer, Circuits, and

Vehicular Technology Groups. I have been a member of the IEEE Consumer Electronics Society National Board of Governors (formerly known as the Administrative Committee) since 1981, and I was Boston Chapter Chairman of the IEEE Vehicular Technology Society from 1974 to 1976. I served as the 1996-1997 President of the IEEE Consumer Electronics Society, and from 1999 to 2018 I served as Chairman of the Society's Technical Activities and Standards Committee and as Vice President of Publications for the Society. Since 2018 I have served as Vice President of Standards and Industry Activities for the Society. I have also served as an Ibuka Award committee member for the IEEE's Award in the field of consumer electronics.

11. I have prepared and presented numerous papers at the IEEE and at other professional meetings. For example, in fall 2000, I served as general program chair for IEEE's Vehicular Technology Conference on advanced wireless communication technology. I have organized sessions at The International Conference on Consumer Electronics, and I was the 1984 program chairman. I conducted an eight-week IEEE-sponsored short course on Fiber Optics System Design. I received IEEE's Centennial Medal in 1984, and I received IEEE's Millennium Medal in 2000.

12. As Vice President and Standards Group Chairman for the Association of Computer Users ("ACU") from 1980 to 1983, I served as the ACU

representative to the ANSI X3 Standards Group. From 1976 to 1978, I served as Chairman of the task group on user rule compliance for the FCC's Citizens Advisory Committee on Citizen's Band Radio.

13. Over the last 25 years, I have been a member of the Society of Cable Television Engineers, the Association for Computing Machinery, and The Society of Motion Picture and Television Engineers. From 2001 to 2004, I served as a member of the USA advisory board to the National Science Museum of Israel. In 1998, I presented a short course on international product development strategies as a faculty member for Technion Institute of Management in Israel. From 2001 to 2003, I served as a member of the board or directors of The Massachusetts Future Problem Solving Program.

14. I am a named inventor on seven United States patents and have several publications on data communications in publications, including Electronics Design, Microwaves, EDN, the Proceedings of the Frequency Control Symposium, Optical Spectra, and IEEE publications.

15. During my professional career dating from 1969 to the present, I have been heavily engaged in the study, analysis, evaluation, design, and implementation of products and technology associated with consumer electronics and electronic appliances. A particular focus of my professional activities has been improving the man-machine interface including voice, speech, and speaker

recognition for man-machine interactions. I also have extensive experience in studying foundation technologies and the applications supporting home automation, home appliance control, residential energy management, and home security and monitoring.

16. For approximately three years, from 1969 to 1972, I served as Project Engineer for Motorola's Communications Division, where I had project design responsibilities for paging and wireless communication products. Projects I worked on while employed at Motorola included work on paging systems that included digital voice storage, voice compression, and voice synthesis. I also worked on projects that interfaced wireless data communications terminals to public safety computer systems for mobile data retrieval and data entry.

17. For approximately four years, from 1972 to 1976, I served as Section Manager for Bell & Howell Communications Company, where I also had project design responsibilities for paging and wireless communication products. The projects I supported included covert audio intelligence systems that recognized speech and activated digital voice compression recording systems. I also led projects for voice-based radio paging systems that recorded speech input, processed the speech to remove silence, processed the speech to digitally compress the speech, and store and forward the speech upon demand from DTMF or computer keyboard retrieval from the servers.

18. For 25 years from 1976 to 2001, I worked for Arthur D. Little, Inc. (ADL), where I became the Vice President and Director of Communications, Information Technology, and Electronics (CIE) and served in that role for 10 years, from 1991 to 2001. At ADL, I was responsible for the firm's global CIE practice in laboratory-based contract engineering, product development, and technology-based consulting. I was also involved in multiple pioneering efforts to identify and explore customer-to-business and business-to-business electronic commerce and transactions information processing opportunities (e-commerce). These projects involved technology assessment and analysis as well as developing architectures and systems to support multiple applications, and typically involved an information retrieval component.

19. While at ADL, I worked on several projects involving the combination of voice interfaces (including speech recognition and voice audio output) and information retrieval as well as working on projects for utilities, service providers, and consumer electronics OEMs for home automation and energy management. For example, over the course of three years in the early-1990s, I worked on a project for Bolt Beranek and Newman (BB&N), where I evaluated and benchmarked technology for a voice input/output application that allowed end users (e.g., travel agents) to use speech inputs to interact with airline reservation databases to retrieve information about travel reservation options,

where the results were returned to the user in an audible message. This system included a natural language front-end speech-interface module with speech recognition that used pre-defined recognition grammars to convert the end user's speech into structured commands supported by an airline reservation system. As another example, over the course of three years in the mid-1990s, I worked on a project for Texas Instruments that applied a speech-recognition interface for a variety of applications that retrieved information from database servers. My work for electric, gas, and water utilities included a focus on remote and automatic meter reading and energy management of appliances and residential HVAC systems.

20. Other projects that I worked on at various points in my 25 years at ADL and afterwards that involved speech recognition technologies included the following.

21. Over the course of three years in the early 1990s, I worked on a voice-interface project developing spoken digit telephone number recognition and voiceprint matching for Sprint's long distance alternative access telephone services.

22. Over the course of a year in the late 1980s, I worked on a voice interface project evaluating the processing power needed to perform various voice recognition applications by Rockwell Semiconductor's signal processing technology.

23. Other projects that I worked on at various points in my 25 years at ADL that involved information-retrieval technologies included the following.

24. Over the course of 15 years starting in the early 1980s, I worked on a project for the United States Postal Service (USPS), where we developed a real-time automated postal teller system that served as an interface between end-users and the USPS's information systems. This system included voice prompts for the vision impaired.

25. Over the course of two years in the early 1990s, I worked on a project for the grocery industry consortium of The Food Marketing Institute and The Grocery Manufacturers Association, where I developed standards used by the industry for direct exchange electronic data interchange (DEX/UCS EDI). This project involved developing a business model for vendors who make direct store delivery of merchandise to retail stores (e.g., fast-moving goods that do not come via a warehouse such as soda, meat, bread) so that legacy paper receipts and signature could be captured on hand-held portable computers and then uploaded to the vendors' billing computers at some later time to generate invoices.

26. Over the course of two years in the early 1990s, I worked on a project for MasterCard and Visa, where I supported a project exploring the applications and security issues associated with the use of smart cards in eCommerce. This project explored both physical security properties of the card media as well as

issues associated with the back-end information processing servers. For example, I explored electronic watermarks resident on a credit card where the watermark digital content was captured at point of sale and then uploaded to the back-end credit card processor so that the card media could be authenticated as genuine.

27. Over the course of two years in the late 1970s, I worked on a project for a multi-client consortium of newspapers and information publishers, where I participated in a project to understand opportunities for electronic home information and transaction services using both dedicated videotex terminals as well as home computers. The project was focused on providing end consumers in ordinary households with the means to read newspapers, interact with classified advertising, send messages, access telephone directories, and search for information.

28. Over the course of two years in the late 1980s, I worked on a project in support of a multi-client study of new opportunities for financial industry firms, where I studied the security and encryption requirements to support electronic banking. This work involved consideration of counterfeit projection for media, physical security of systems, and the development of security protocols for home banking videotex terminals. This project focused on providing ordinary end consumer households with the means to conduct home banking in a secure and simple interface via a keyboard and visual display.

29. I also have extensive experience in public and private network wired and wireless voice telecommunications while employed by Motorola, Bell & Howell, and Arthur D Little, and while self-employed. In the course of these telecommunications projects ranging from 1969 to the present, I have encountered a number of applications where audio input and voice are used to activate devices, for example for the purpose of saving battery power by entering into low power, so-called “sleep” modes. These projects have involved the design of cellular telecommunications systems that implement industry standard means of entering lower power modes in the absence of voice.

30. Examples of other projects that I worked on at various points in my 25 years at ADL and afterwards that involved home automation, control, and energy management include:

31. Support of a unique two-way power line carrier system from electric utility substations to served homes for automatic meter reading and load management to cycle air conditioners and heating systems. The system was deployed by New England Electric Systems and sold worldwide by Emerson Electric.

32. I have served for over 30 years as a member of the IEEE International Conference on Consumer Electronics (ICCE) annual technical conference as a member of technical program committee track on home automation and control. In

this capacity, I reviewed dozens of research paper contributions under consideration for presentation at the ICCE.

33. For Honeywell, I performed a project to study alternative technologies suitable for in home network energy management and environmental control including wireless thermostats. The project involved consideration of power line carrier, wireless radio frequency, and wired communications systems.

34. For Cambridge Silicon Radio (UK), I worked with the client to develop a prioritized list of applications for their Bluetooth component offerings. The project mapped applications into specific target customers and based upon an analysis that considered the market needs with CSR's capabilities, a prioritized roadmap of products was developed to steer the R&D portfolio. A primary focus of the project was to explore short range wireless applications for home automation and control.

35. My curriculum vitae are provided as Exhibit 1003.

III. INFORMATION CONSIDERED

36. In preparation for this declaration, I have considered the materials discussed in this declaration, including, for example, the '314 patent, the references cited by the '314 patent, the prosecution histories of the '314 patent and applications from which it derives (including the references cited therein), various background articles and materials referenced in this declaration, and the prior art

references identified in this declaration. In addition, my opinions are further based on my education, training, experience, and knowledge in the relevant field.

IV. RELEVANT LEGAL STANDARDS

37. I am not an attorney and offer no legal opinions. For the purposes of this Declaration, I have been informed about certain aspects of the law that are relevant to my analysis, as summarized below.

A. Claim Interpretation

38. I have been informed and understand that in an IPR proceeding, claims are to be interpreted according to the Phillips claim construction standard. I have been informed and understand that claim construction is a matter of law and that the final claim constructions for this proceeding will be determined by the Patent Trial and Appeal Board (“PTAB”).

B. Written Description

39. I understand that determining whether a particular patent or printed publication constitutes prior art to a challenged patent claim can require determining the effective filing date (also known as the priority date) to which the challenged claim is entitled. I understand that for a patent claim to be entitled to the benefit of the filing date of an earlier application to which the patent claims priority, the earlier application must have described the claimed invention in sufficient detail to convey with reasonable clarity to the POSITA that the inventor had possession of the claimed invention as of the earlier application’s filing date. I

understand that a disclosure that merely renders the claimed invention obvious is not sufficient written description for the claim to be entitled to the benefit of the filing date of the application containing that disclosure.

C. Perspective of One of Ordinary Skill in the Art

40. I have been informed and understand that a patent is to be understood from the perspective of a hypothetical “person of ordinary skill in the art” (“POSITA”). Such an individual is considered to possess normal skills and knowledge in a particular technical field (as opposed to being a genius). I understand that in considering what the claims of a patent require, what was known prior to that patent, what a prior art reference discloses, and whether an invention is obvious or not, one must use the perspective of such a POSITA.

D. Obviousness

41. I have been informed and understand that a patent claim is obvious under 35 U.S.C. § 103, and therefore invalid, if the claimed subject matter, as a whole, would have been obvious to a POSITA as of the priority date of the patent based on one or more prior art references and/or the knowledge of a POSITA.

42. I understand that an obviousness analysis must consider (1) the scope and content of the prior art, (2) the differences between the claims and the prior art, (3) the level of ordinary skill in the pertinent art, and (4) secondary considerations, if any, of non-obviousness (such as unexpected results, commercial success, long-

felt but unmet need, failure of others, copying by others, and skepticism of experts).

43. I understand that a prior art reference may be combined with other references to disclose each element of the invention under 35 U.S.C. § 103. I understand that a reference may also be combined with the knowledge of a POSITA, and that this knowledge may be used to combine multiple references. I further understand that a POSITA is presumed to know the relevant prior art. I understand that the obviousness analysis may take into account the inferences and creative steps that a POSITA would employ.

44. In determining whether a prior art reference would have been combined with other prior art or other information known to a POSITA, I understand that the following principles may be considered:

- whether the references to be combined involve non-analogous art;
- whether the references to be combined are in different fields of endeavor than the alleged invention in the patent;
- whether the references to be combined are reasonably pertinent to the problems to which the inventions of the patent are directed;
- whether the combination is of familiar elements according to known methods that yields predictable results;
- whether a combination involves the substitution of one known element for

another that yields predictable results;

- whether the combination involves the use of a known technique to improve similar items or methods in the same way that yields predictable results;
- whether the combination involves the application of a known technique to a prior art reference that is ready for improvement, to yield predictable results;
- whether the combination is “obvious to try”;
- whether the combination involves the known work in one field of endeavor prompting variations of it for use in either the same field or a different one based on design incentives or other market forces, where the variations are predictable to a POSITA;
- whether there is some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill in the art to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention;
- whether the combination requires modifications that render the prior art unsatisfactory for its intended use;
- whether the combination requires modifications that change the principle of operation of the reference;
- whether the combination is reasonably expected to be a success; and
- whether the combination possesses the requisite degree of predictability at

the time the invention was made.

45. I understand that in determining whether a combination of prior art references renders a claim obvious, it is helpful to consider whether there is some teaching, suggestion, or motivation to combine the references and a reasonable expectation of success in doing so. I understand, however, that a teaching, suggestion, or motivation to combine is not required

V. SUMMARY OF OPINIONS

46. It is my opinion that Claims 1-26 of the '314 patent would have been obvious under 35 U.S.C. § 103 on the following grounds.

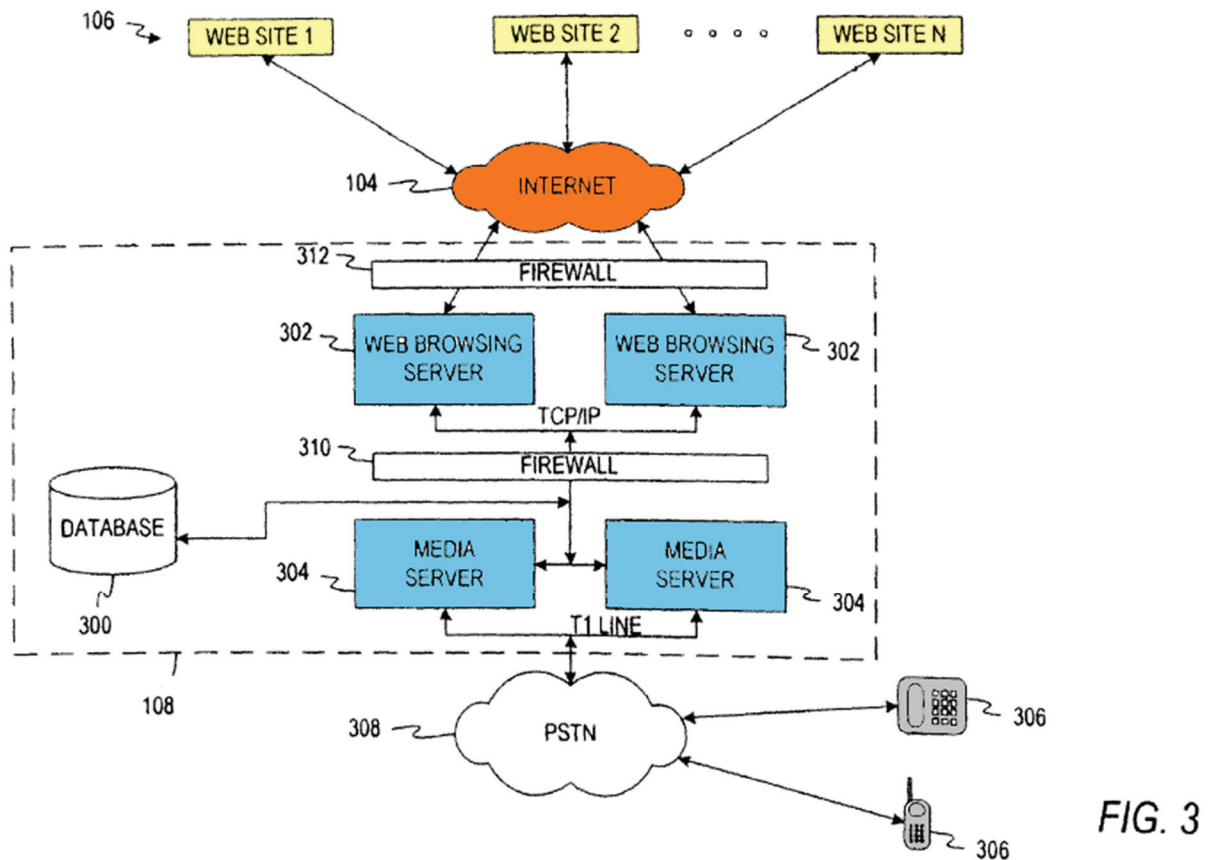
- **Ground 1:** Claims 1-26 of the '314 patent are rendered obvious by U.S. Patent No. 5,884,262 ("Wise") in view of U.S. Patent No. 6,510,417 ("Woods").
- **Ground 2:** Claims 1-25 of the '314 patent are rendered obvious by Wise in view of U.S. Patent No. 5,761,662 ("Dasan").
- **Ground 3:** Claim 26 of the '314 patent is rendered obvious by Wise in view of Dasan and U.S. Patent No. 5,915,001 ("Uppaluru").

VI. '314 PATENT

A. Specification

47. The '314 patent's "voice browser system" "allow[s] a user to retrieve customized information from a network using speech communication" with, e.g.,

“a telephone” (annotated grey below).¹ Ex-1001, 2:54-62.



48. Users make requests to a server system (Fig. 3, blue; *see also* Fig. 1) containing a “speech recognition software engine” (Fig. 5, green) that recognizes spoken commands and “personal recognition grammar,” generated by a clipping client/engine and stored in a database. Ex-1001, 4:51-62, 5:8-10, 5:42-61.

¹ Annotations, colors, and emphasis are added unless noted otherwise.

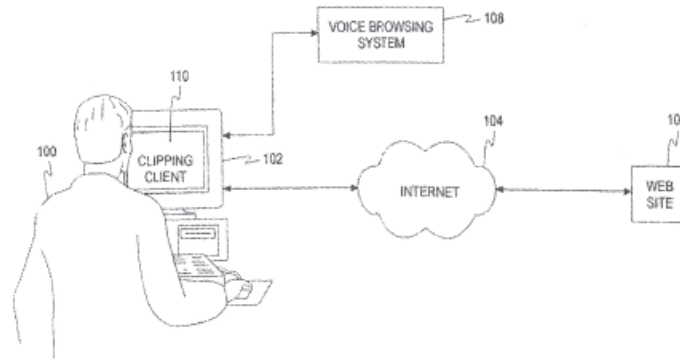


FIG. 1

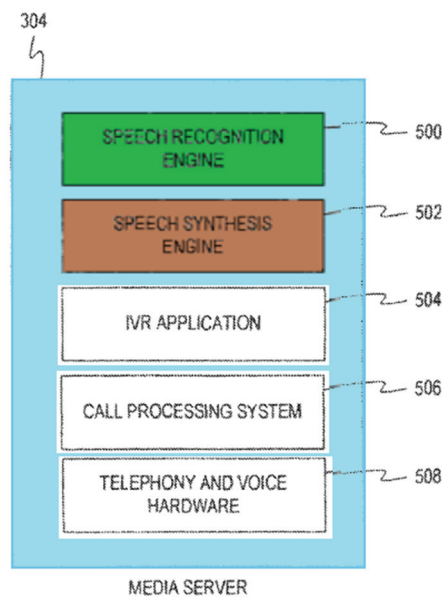


FIG. 5

49. Clipping client 110 allows a user “to create a set of instructions” for the system “to report personalized information back to the user” by “clipping” from a user-identified website containing desired information. Ex-1001, 3:6-21. The user “select[s] only that portion of the” website containing the desired information and then clipping client 110 “creates a content descriptor file,” which “indicates where the information selected by the user is located on” the website.

Ex-1001, 3:22-4:49. A “content extraction agent” then retrieves the content descriptor file and directs “where to extract data from the” webpage, and “how to format a response to the user utilizing that data.” Ex-1001, 6:11-8:49, Fig. 6.

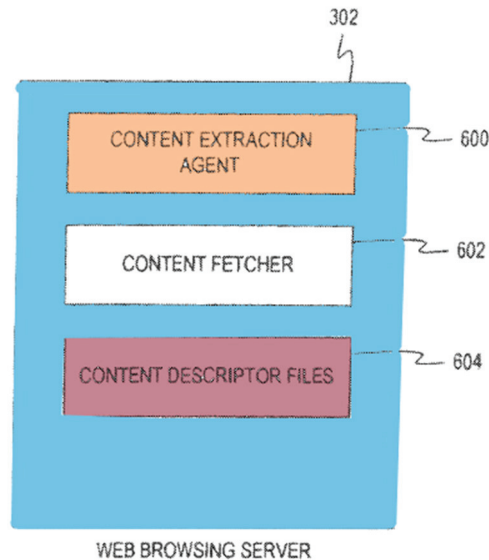


FIG. 6

50. “Speech synthesis software” converts retrieved website information into audio messages (Fig. 5, brown) transmitted to the user. Ex-1001, 6:1-7. Both the speech-recognition and synthesis engines are based on prior-art, third-party software. Ex-1001, 5:54-56, 6:4-7. The system’s components “function as [a] user interface” for telephone communication with internet websites. Ex-1001, 5:3-8.

51. While conceding that Internet information-retrieval systems were known, the ’314 patent alleges it fulfilled a need for a telephone-based retrieval

system. Ex-1001, 2:26-30. However, such systems were already known in the prior art—e.g., Wise.

B. Prosecution History

52. I reviewed the prosecution history of the patent application for the '314 patent (Application No. 15/193,517) in connection with interpreting the '314 patent's claims.

53. The '314 patent was allowed after only one office action and several interviews with the Examiner. On September 1, 2016, the Examiner rejected all of the claims for double patenting over seven patents and for anticipation by Berstis (U.S. Patent No. 6,718,015). Ex-1021, 132-142, 231. The Examiner amended the independent claims to include that “a clipping engine... generates an instruction that requests information from an identified website... wherein the information is only a portion of a webpage containing information of interest....” Ex-1021, 190-194.

54. In its response, Applicant filed terminal disclaimers and also amended the independent claims to replace “clipping engine” with “processing engine.” Ex-1021, 196-211. After a number of Examiner interviews, Applicant proposed claim amendments requiring “the information source being periodically updated”; replacing “processing engine” with “processor”; and replacing “clipping client” with a “content extractor uses a content-descriptor file....” Ex-1021, 276-305. On

January 27, 2017, the Examiner entered the amendments and allowed the claims based on the amendments. Ex-1021, 423-494.

55. Two of the four references in this petition (i.e., Woods and Dasan) were not before the Examiner. Nor were any similar disclosures or teachings discussed by the Examiner.

56. Nor did any prior art references before the Examiner make disclosures cumulative to Woods or Dasan. Accordingly, none of the grounds or arguments based on these disclosures were previously presented to the Examiner, yet they are directly material to patentability.

57. Here, the Examiner erred by overlooking the clear and unambiguous teachings of Wise and Uppaluru. As explained in detail in Sections XI.A.-XI.C., Wise (in combination with other prior art not of record) renders obvious Claims 1-26 and with Uppaluru renders obvious Claim 26. Conversely, other than the IDS, the record is silent on the Examiner's view of Wise and Uppaluru. Conversely, other than their listing on an information disclosure statement containing 361 references, the record is silent on the Examiner's view of Wise and Uppaluru.

C. Priority Date

58. According to the face of the patent, the '314 patent claims priority to U.S. provisional application No. 60/180,343 ('343 provisional), filed February 4, 2000. *See* Ex-1001, (60) on the face of the patent.

59. I have been asked to assess whether the provisional application provides written description support for Claims 1-26 of the '314 patent, applying the standard discussed in Section IV.B. above.

60. I have reviewed the '343 provisional application to which the '314 patent claims. When I compare the '343 provisional application to the application that issued as the '314 patent (the "'406 application") it is apparent that the '406 provisional adds most of the claim-related disclosures. For example, Figures 3-6 and their accompanying disclosures and much of the disclosure for the '314 patent appears for the first time in the '406 application filed on February 6, 2001. *See* Ex-1048. For example, there is no disclosure of a "content extraction agent" or "content extractor" (a limitation required by all of the independent claims of the '314 patent) in the '314 patent's provisional application. *See* Ex-1047. These terms first appear in the '406 application. *See* Ex-1048. Accordingly, it is my understanding that the priority date of the claims is no earlier than February 6, 2001.

VII. TECHNOLOGY BACKGROUND

A. Storing electronic documents in a magnetic medium was well known in the art

61. L.D. Stevens explained in 1981 that "magnetic disks provided a combination of direct and sequential access" and that "a conceptual cylinder" was formed. Ex-1033, 668. Stevens explained that "the first disk drive control unit, the

IBM 7631, used a track associated with each cylinder of data for format control and allowed the specification of a different record format for each cylinder.” *Id.*

62. Regardless, storing a database on a magnetic media storage device, such as a hard disk, would have been an obvious choice to a POSITA because of its capacity, reliability, fast access times, and reasonable cost. This is also shown by Stevens, who explains the progression of magnetic storage. Stevens notes that by “the mid-1970s the management of very large magnetic tape libraries had become a major problem in terms of cost and space for installations” which led to “the need for automated tape library storage.” Ex-1033, 671. The “low cost and the high-performance disk storage” were provided by the development of an “improved moving-head disk file [] – for data base storage.” *Id.*

B. Voice Recognition was well known.

63. U.S. Patent No. 6,085,160 (D’hoore) is another reference that shows how speech recognition was well known by 1998. D’hoore discloses how speech recognition systems use language independent acoustic models derived from speech data from multiple languages to represent speech units which are concatenated into words.” Ex-1023, Abstract. D’hoore explained that the speech input is processed into a speech-related signal which is compared to the acoustic models and language model until the input speech is recognized as a “specific word sequence of at least one word.” Ex-1023, 1:44-53. Specifically, D’hoore

notes “speech recognition systems” “typically” analyze “*phonemes*” using “acoustic models.” Ex-1023, 1:10-31, 2:43-3:29. D’hoore incorporates by reference the Fundamentals of Speech Recognition by Rabiner and Juang published in 1993, further showing how speech and voice recognition was well known. *Id.*, 2:59-62.

64. An interactive user interface using speech recognition and natural language processing” was also known by 1999, as disclosed in U.S. Patent No. 6,434,524 (“Weber”). Ex-1024. Weber proposed “software and hardware that act together to audibly detect human speech and translate the detected speech into a string of words” by using a “natural language processing system... determining a conceptual ‘meaning’ (e.g., what meaning the speaker intended to convey) of the detected words by analyzing their grammatical relationship and relative context.” Ex-1024, 1:42-48, 1:66-2:5. Weber explained how speech recognition provides “an easier, faster and more intuitive method of communicating with computers and networked object, such as web-sites.” *Id.*, 1:37-40. Thus, a POSITA would have readily understood to use speech recognition in voice-browsing since it was well known that speech recognition allowed an easier and faster way to communicate with web sites.

C. Storing personal recognition relating to web information was well known.

65. Furthermore, it was well-known to store a personal-recognition

grammar relating to web information. For example, U.S. Patent No. 6,587,822 to Brown was filed October 6, 1998 and discloses automatically generating speech recognition grammar and vocabulary relating to a web page. Ex-1015, 5:60-6:18. Specifically, Brown parses an HTML for section titles, hyperlinks, and other indicators that are converted to speech and then constructs “a subgrammar for each indicator by generating all possibly ways of speaking subsets of the indicator.” *Id.* “All other voice commands are then combined with the subgrammar and a complete grammar is compiled into an optimized finite-state network” in order to contain the “possible sequences of words that can be recognized.” *Id.* “As a simple example, a representation of the <GRAMMAR> tag embedded in a hyperlink (e.g., HREF =“http://www.anywhere.net/” GRAMMAR=“((get|retrieve|call for) messages)” TITLE=“Get messages”) can represent a flexible set of alternative utterances that a user can say to cause an action such as initiating a phone call to the user's answering machine.” *Id.*, 14:22-29.

66. Furthermore, Uppaluru titled “System and Method for Providing and Using Universally Accessible Voice and Speech Data Files,” is U.S. Patent No. 5,915,001, filed November 14, 1996 and issued June 22, 1999, and also discloses storing personal-recognition grammars relating to web information. *See* Ex-1014. For example, Uppaluru includes personal speech training pages that are “pre-captured training files to be used in performing speaker dependent speech

recognition in providing the corresponding service to a subscriber.” *Id.*, 13:5-11.

Each speech training page includes “training data specifically tailored to the words more commonly associated with the corresponding service.” *Id.*, 13:18-20; *see also* 17:28-35. The speech training pages “are organized as a linked collection of voice web profile pages each linked to the corresponding personal voice web service page” and contain the context-dependent “training vocabulary for browser command and control,” “a set of command and control key words,” and “personalized speech recognition patterns representing the context sensitive vocabulary for the corresponding service page.” Ex-1014, 17:38-35, 17:46-49. Uppaluru’s voice web browser, “responding to the subscriber’s voice commands pertinent to the accessed voice web service page,” thus “recognizes the command and control word utterances,” i.e., the subscriber’s voice commands 720, “and matches them against the personalized vocabulary in the corresponding voice web speech training page for accurate speaker dependent recognition of discrete speech.” Ex-1014, 18:23-29. For example, “if the subscriber is accessing the weather service page, the agent fills in the subscriber’s home town.” Ex-1014, 19:12-19.

67. Therefore it was well known to store personal grammars correlating to web information.

D. A polling mechanism to poll web sites was well known.

68. Based on my familiarity with the POSITA's level of knowledge and skill, POSITAs noted in 1994 dissertation by Hull titled "INFORMATION RETRIEVAL USING STATISTICAL CLASSIFICATION" technology was "rapidly developing to meet" the need of designing information retrieval systems, computers and software "to index, store, and provide easy access to data." Ex-1038, 1.

69. In 1996, POSITAs noted that the "[c]ompleteness and timeliness of the listing of information resources available through the Internet is of paramount concern... since the newest sources of information are often the most important to subscribers." Ex-1022, 3:22-41. Kirsch establishes that, by at least 1996, POSITAs were publishing how the newest sources of information were the most important because the "ability to simply track if not expediently search for information available via the internet has not kept pace with the rapid expansion of information available via the Internet." Ex-1022, 2:53-55. Kirsch states that since the "Web is not entirely static, but rather greatly increasing in its extent and complexity on a continuing basis, web crawlers face a daunting task in repeatedly tracing out and maintaining a web space map of URLs." Ex-1022, 2:63-65. Thus, Kirsch disclosed a "system and method of identifying and verifying new resource locators of static... information culled from dynamic sources of information." Ex-1023, 3:64-67. Specifically, "to support the currentness of the database, an update and purge

algorithm” allows for “periodically updating or removing obsolete or invalid resource locators from the database.” Ex-1022, 4:21-24. Therefore, POSITAs understood that polling the web sites providing information in a database in order to update and purge entries in the database was well known.

70. Furthermore, Heting Chu and Marilyn Rosenthal published an article in 1996 titled “Search Engines for the World Wide Web: A Comparative Study and Evaluation Methodology.” Ex-1039, 1. Chu and Rosenthal explained that “composition of Web indexes affects the performance of the Web search engine” and they inspected the “makeup of a Web index, namely coverage, update frequency, and the portions of the Web pages indexed.” Ex-1039, 12. Thus, POSITAs were mindful of keeping Web indexes updated since it affects the performance of the Web search engine with a primary focus to the coverage and update frequency.

71. U.S. Patent No. 6,418,433 to Chakrabarti further discusses how POSITAs would have recognized that “the content of the Web grows and changes minute by minute,” such that “crawling the Web” for new web sites was understood to be beneficial for maintaining an information-retrieval system’s listing up-to-date to best enable users “to find a particular item of interest” using the information-retrieval system. Ex-1032, 1:22-57. Chakrabarti also discusses how web-crawlers “must never cease crawling the Web, to index new pages and to

periodically revisit old pages that might have changed.” Ex-1032, 1:56-57.

E. Ranking agent was well known.

72. A POSITA would have been aware that ranking of web sites was well known prior to February 2000. For example, U.S. Patent No. 6,285,999 (Page) discusses how ranking documents in a database “enhances the performance of search engine results for hypermedia databased, such as the world wide web, whose documents have a large variation in quality.” Ex-1034, Abstract. Page further explains that “high rank indicates that a document is considered valuable” which enables a searcher to access an important page with the ranking method of assigning “higher ranks to the more important pages.” Ex-1034, 3:4-16.

Furthermore it was well known to adjust the rankings of web site based on the same quality of service metrics disclosed in the ’705 patent specification, i.e., long, unexpected, or no responses.

73. Ranking of information retrieved from computer-based systems well predates the internet itself and this legacy learning was more recently employed to rank content retrieved from the internet based mainly on the relevance of the information retrieved to what was actually desired. Some example excerpts from a 1999 Scientific American Article (Ex-1035) provide a summary of the historical issue and propose one particular solution:

. . .But because of the Web’s rapid, chaotic growth, the resulting network of information lacks organization and structure. . . How can

people quickly locate only the information they need and trust that it is authentic and reliable? . . . Search engines such as AltaVista, Infoseek, HotBot, Lycos and Excite use heuristics to determine the way in which to order--and thereby prioritize--pages. These rules of thumb are collectively known as a ranking function . . .

Ex-1035, 1-2

74. The 1999 Scientific American Article is but one of many publications dealing with ranking of retrieved webpages. For example, Susan Feldman published an article in 1999, titled “NLP Meets the Jabberwocky: Natural Language Processing in Information Retrieval” (Ex-1036) which further supports that ranking of retrieved information was well known:

Step 4: Ranking & Sorting

Once all the candidate documents are selected that match the query, they are sorted by date, by field, or by how relevant the document is predicted to be to the query.

Traditional systems commonly return results sorted in reverse chronological order, but they could sort in ascending chronological order, by author’s name, by report number, etc. Statistical and NLP-based systems use the same kind of relevance ranking techniques. They rank the retrieved documents so that the top ones returned match the query the closest. Where these systems vary is in how they define a “close match.”

Relevance ranking can be the topic of a whole other article, but briefly, relevance is determined by first assigning a weight to each term. This weight is determined by how frequently the term appears in the document, and also how often it occurs in the database as a whole. Relatively rare terms in the database that occur frequently in a document are assigned a higher weight than words that are more common. Documents that have more occurrences of the query terms, and in which the terms appear closely together in the text are ranked

highly. Usually (but not always) a document that contains all the query terms will be ranked higher than one that contains fewer terms but more appearances of those terms.

Ex-1036, 5.

75. Once information has been retrieved and ranked in the well-known prior art manner such as the in the above examples, a POSITA would have recognized complementary well-known prior art based on the same “Quality of Service metrics” disclosed in the ’705 patent that allows the ranked web sites to be evaluated and the rankings adjusted using criteria such as whether the web site is unavailable, includes an error, or has a long response time. For example, a 2000 IBM Research Paper by Kobayashi and Takeda (Ex-1037) discloses how these metrics for evaluating quality of service were well understood. The IBM Paper reviewed “studies of the growth of the Internet and technologies that are useful for information search and retrieval on the Web” and found that “surveys show, however, that users are not satisfied with the performance of the current generation of search engines; the slow retrieval speed, communication delays, and poor quality of retrieved results (e.g., noise and broken links) are commonly cited problems.” Ex-1037, 1. The IBM Paper notes that “[i]n particular, speed (i.e., search engine search and retrieval time plus communication delays) has consistently been cited as ‘the most commonly experienced problem with the Web’ in the biannual WWW surveys conducted at the Graphics, Visualization, and

Usability Center of the Georgia Institute of Technology.” Ex-1037, 3 (internal citations omitted). “Other studies also cite the number one and number two reasons for dissatisfaction as ‘slow access’ and ‘the inability to find relevant information,’ respectively.” Ex-1037, 3 (internal citations omitted). Thus, a POSITA would have understood that once information has been retrieved and ranked based on the same “Quality of Service metrics,” such as whether the web site is unavailable, includes an error, or has a long response time.

76. A POSITA would have been aware that ranking of web sites was well known prior to February 2000.

VIII. LEVEL OF ORDINARY SKILL IN THE ART

77. A POSITA would have had a Bachelor’s Degree in electrical engineering, computer science, or a related field, and at least two years of experience with voice interfaces and information processing. More education could substitute for less experience, and vice versa.

IX. CLAIM CONSTRUCTION

78. I do not believe that any term requires explicit construction to resolve the issues presented in this Petition. I ascribe the plain meaning to each claim term, as that plain meaning would have been understood by a POSITA.

X. BRIEF DESCRIPTION OF THE PRIOR ART REFERENCES

A. Wise (Ex-1007)

79. Wise, titled “Computer Network Audio Access and Conversion

System,” is U.S. Patent No. 5,884,262, filed March 28, 1996 and issued March 16, 1999. I understand that Wise qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a) and 102(e) even if the claims are entitled to the earliest claimed priority date of February 4, 2000.

80. Wise discloses a “voice response system” including “voice recognition” that “attempt[s] to match a speech input” via a telephone “to a preselected list of potential selections,” i.e., “the dictionary of words that the... system will recognize.” Ex-1007, 1:66-2:2, 2:50-58, 6:20-28. A telephone is connected to architecture 100 which is connected to various Web servers “through a computer network 15, such as the internet.” Ex-1007, 3:52-61.

81. Wise’s system is navigated based on an interpreted user command. As shown in Figure 2, the voice command is received from telephone 10, translated, passed to Call Manager 210 to select “a predetermined audio-compatible address” and routed to Parser 230. Ex-1007, 6:31-40.

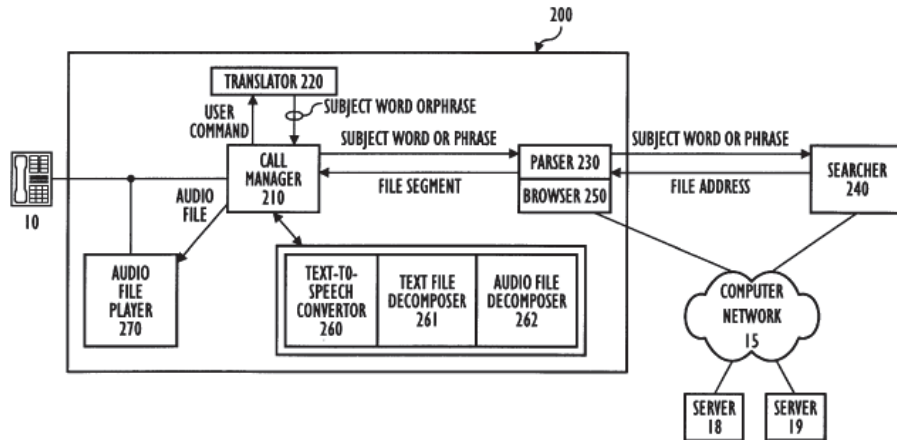


FIG. 2

Parser 230 either “match[es]... predetermined file address[es], stored in memory,” to the word/phrase or sends it “to Searcher 240... to find addresses of files on a target computer network 15” relating to the word/phrase, e.g., webpages relating to “Washington D.C. area weather.” Ex-1007, 6:40-49, Claim 8. Parser 230 passes the web address “to Browser 250 which establishes a connection to the appropriate server 18 through the network 15,” “downloads the entire requested file,” and passes it to Parser 230. Ex-1007, 7:7-13. Parser 230 analyzes the contents and structure of the downloaded file (e.g., “determine[s] the title of the Web page”), sends the “compressed text segment” through Call Manager 210 to a text-to-speech converter “for translation into an audio file,” and then routes the audio file via Call Manager 210 to audio file player 270. Ex-1007, 7:13-20, 38-42.

82. Moreover, Wise discloses that a website “may contain tags designating links or portions of a document” and the system may “attempt to

navigate to a location corresponding to a user command and effect any action possible at that location.” Ex-1007, 2:61-66. For instance, “in a document containing a list of stock symbols,” if/when “a user inputs a command corresponding to a stock symbol, the system may skip ahead to the symbol and begin ‘reading’ at” that location. Ex-1007, 3:4-8.

B. Woods (Ex-1012)

83. Woods, titled “System and Method for Voice Access to Internet-Based Information,” is U.S. Patent No. 6,510,417, filed March 21, 2000 and issued January 21, 2003. I understand that Woods qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(e) if the claims are entitled to a priority date of February 6, 2001.

84. Woods discloses a “voice portal” including “a user interface, at least one database, and an update engine,” which “is in communication with the Internet and provides updated Internet-based information.” Ex-1012, 2:30-37. The voice portal “coordinates voice communications with a user” using a “defined vocabulary set,” to “achieve[]... high rates of recognition.” Ex-1012, 2:31-32, 27:23-25.

85. Woods includes a database that “stores information used by voice portal 10, such as, customer data, advertising information, and product and services information” and is updated by the update engine’s “‘spiders’ which retrieve

information from the Internet.” Ex-1012, 11:15-24, 11:66-12:3.

86. Woods applies “forms” and “special routines” to isolate, extract, and identify “the area on [a] page containing relevant information,” “for speech transmission via a speech interface.” Ex-1012, 15:8-17, 24:23-25.

87. Woods’s “data organizing tool 1025,” allows “rule writers” to “select from a variety of forms” that indicate “the location of relevant information” to be retrieved from a website and “labeled with some distinctive tag.” Ex-1012, 17:6-10, 16:47-51. Data organizing tool 1025 “displays the resulting page in the Internet browser” for the rule writer to confirm using the graphical user interface. Ex-1012, 18:24-26, Fig. 10.

C. Dasan (Ex-1013)

88. Dasan, titled “Personalized Information Retrieval Using User-Defined Profile,” is U.S. Patent No. 5,761,662, filed May 8, 1997 and issued June 2, 1998. I understand that Dasan qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(b) even if the claims are entitled to the earliest claimed priority date of February 4, 2000.

89. Dasan discloses “[a]n automatic method and system for retrieving information based on a user-defined profile (e.g. a personalized newspaper)” “at periodic intervals” to “keep the newspaper-up-to-date.” Ex-1013, 2:2-5, 2:29-33. Dasan discloses that a user “profile is created and stored,” which is accessed by the

server “during editing operations” or “creation of the newspaper.” Ex-1013, 6:1-4. The user profile is created and edited, as illustrated in Figures 7 and 8 , by the user filling out “forms” from their browser “to control the parameters of” Dasan’s “server-resident process” such as, e.g., specifying “the types of stories/articles which are of interest to the user.” Ex-1013, 4:42-49, 7:22-26. Dasan’s personal news profile stored in a ASCII text includes a string of topics, sources and keywords, specifically delegating the portion of the file containing the desired information. Ex-1013, 6:61-66, 7:1-21 (depicting exemplary news profile).

90. When creating the newspaper, Dasan performs a “full-text searching process” for “corresponding search terms(s) specified in each of the topics contained in the profile” on the “raw news sources” (i.e., webpages) that “come in as large text files.” Ex-1013, 7:61-65, 8:4-7. Once “certain search terms having the specified context(s) in the file,” Dasan parses and converts “the portion of the file containing the located article” “into an individual ASCII file which is resident on the server.” Ex-1013, 8:7-11.

D. Uppaluru (Ex-1014)

91. Uppaluru, titled “System and Method for Providing and Using Universally Accessible Voice and Speech Data Files,” is U.S. Patent No. 5,915,001, filed November 14, 1996 and issued June 22, 1999. I understand that Uppaluru qualifies as prior art under at least pre-AIA 35 U.S.C. § 102(a) and

102(e) even if the claims are entitled to the earliest claimed priority date of February 4, 2000.

92. Uppaluru discloses a “voice web system” that “presents a top level voice web personal home page for user’s perusal” while simultaneously “retriev[ing] the set of word recognition patterns associated with the key words in the presented page from the user’s speech profile.” Ex-1014, 3:24-28. The system “match[es] the active vocabulary and associated speaker dependent word patterns dynamically in a context sensitive manner.” Ex-1014, 3:28-30. Uppaluru’s voice web browser uses “speech training profiles to dynamically change the active vocabulary in the voice processing software and hardware thereby customizing it to the subscriber.” Ex-1014, 14:51-54. Specifically, Uppaluru “recognizes the command and control word utterances... and matches them against the personalized vocabulary in the corresponding voice web speech training page for accurate speaker dependent recognition.” Ex-1014, 18:23-29.

XI. DETAILED EXPLANATION OF THE UNPATENTABILITY GROUNDS

A. Ground 1: Claims 1-26 Would Have Been Obvious over Wise in View of Woods

1. A POSITA would have been motivated to combine the teachings of Wise and Woods and would have had a reasonable expectation of success in doing so.

93. As set forth in detail below when discussing relevant limitations (*see*, *e.g.*, Sections XI.A.2.a., XI.A.2.i., XI.A.2.l.-XI.A.2.4.n., XI.A.2.q., XI.A.3.a.,

XI.A.3.e.-XI.A.3.g., XI.A.3.k.), a POSITA would have been motivated to combine the relevant teachings of Wise and Woods, and would have a reasonable expectation of success in doing so, because both relate to systems and methods for “providing voice access to Internet-based information and services.” Ex-1012, Abstract; Ex-1007, Abstract.

2. Independent Claims 1, 6, 11 and 19

- a. 1[Pre(i)]/6[Pre(i)]/11[Pre(i)]/19[Pre(i)]: A[n] [method/system/information-retrieval system] for retrieving [desired] information from an information source [of a plurality of information sources], the information source being periodically updated with current information, [comprising:]**

94. Wise discloses a “voice response system” that “access[es] information from a computer network” such as “(Web) page[s] on the Internet” (e.g., plurality of information sources) via telephones, PDAs, or other devices. Ex-1007, 1:5-8, 1:37-60, 2:50-51.

95. Woods discloses a “voice portal” including “a user interface,... database, and an update engine... coupled to the database,” which “is in communication with the Internet and provides updated Internet-based information.” Ex-1012, 2:30-37. Woods’s update engine “utilizes ‘spiders’ which retrieve information from the Internet in order to update information in database 170.” Ex-1012, 11:15-19. For example, “[i]ncremental spiders are usually used to pick up updates of data from Internet data sources.” Ex-1012, 19:8-10.

96. Woods's voice portal obtains "information from... web sites" (Ex-1012, 6:25-26), also described as "Internet sources" (Ex-1012, 10:62-63), which a POSITA would have understood are the same types of information sources from which Wise retrieves information (Ex-1007, 1:37-60, 6:41-51). Woods teaches to perform "[d]ata collection includ[ing] the amassing of data from Internet sources at regular intervals" in order to "detect[] changes to data source sites." Ex-1012, 11:67-12:5. A POSITA would have understood from these teachings that the website information sources from which both Wise and Woods retrieve information are "periodically updated with current information" as claimed. The fact that the information at a website is "changed at many different times" (Ex-1012, 1:27-31) is the motivation Woods discloses for an update engine to utilize spiders (Ex-1012, 11:15-19) to collect the website's updated current information "at regular intervals" (Ex-1012, 11:67-12:3).

97. A POSITA would have understood that the information accessed in Wise, would have been "amass[ed] of data from internet sources at regular intervals" (i.e., periodically updated) as disclosed by Woods (Ex-1012, 11:67-12:3), or would have been motivated to add that functionality to Wise to ensure that the most up-to-date and complete information from an information source (i.e., website) is presented to the user. *See* Ex-1006, 3:56-4:5.

- b. 1[Pre(ii)]/6[Pre(ii)]/11[Pre(ii)]: over a network, by speech commands received from a particular user of a**

plurality of users[, provided by the particular user via an electronic-communication device, and]

98. As discussed in the previous section, Wise discloses retrieving information “over a network.” Ex-1007, 1:5-8. Moreover, Wise’s “voice response system” includes “voice recognition” that “attempt[s] to match a speech input” (speech command) received from a user via a telephone (electronic-communication device) “to a preselected list of potential selections or choices.” Ex-1007, 1:66-2:2, 2:50-58 (explaining that speech-to-text system converts a “user command to text”).

99. A POSITA would have understood that Wise’s system receives speech commands from a plurality of users. For example, Wise discloses that “[f]ile server memory 330 contains user profiles” and “advanced intelligent network (AIN) features may be incorporated into the system to allow access to [the] individual user profiles.” Ex-1007, 3:9-11, 8:67-9:1; *see also* Ex-1007, 9:10-13, 9:27-34.

c. 1[Pre(iii)]/6[Pre(iii)]/11[Pre(iii)]/19[A(i)(b)]: wherein each of the plurality of users has a respective electronic-communication device[, said [method/system] comprising:]

100. Wise discloses that “[a] standard telephone 10, either analog (POTS) or digital (ISDN), may be connected to... architecture 100” which “is then connected through a computer network 15, such as the Internet, to various... Web servers.” Ex-1007, 3:52-61. A POSITA would have understood that each of a

plurality of users would access Wise's system using their own "respective electronic-communication device," such as an analog or digital telephone (*id.*). For example, "only users with authorized caller IDs are allowed to access a particular [AIN] network." Ex-1007, 9:30-31. User profiles are stored in memory 330. Ex-1007, 8:67-9:2.

- d. **1(a)[(i)(A)]/11(a)[(i)(A)]: receiving a speech command[,] from each of the plurality of users provided via the respective electronic-communication device,**

6(a)[(i)(B)]/19(a)[(i)(B)]: [the speech-recognition engine] adapted to receive a speech command from [each/a particular user] of [the/a] plurality of users [provided] via [the/an] [respective] electronic-communication device [to access desired information],

101. Wise discloses that "[a] user can call a designated telephone number and request information via DTMF signalling *or through voice commands.*" Ex-1007, 2:5-7. Wise "analyzes the user's request, establishes a connection with a target computer network, and finds and retrieves the requested information in a standard document file format, such as HTML." Ex-1007, 2:7-11.

102. A Speech-to-Text Convertor (i.e., speech-recognition engine) "convert[s] a user command to text, which" is then "used by the system to control navigation." Ex-1007, 2:53-58, 6:20-30.

- e. **1(a)[(i)(B)]/11(a)[(i)(B)]: [by] [a/the] speech-recognition engine coupled to a media server,**

6(a)[(i)(A)]/19(a)[(i)(A)]: a speech-recognition engine [including/coupled to] a processor and [coupled to] a media server,

103. Wise's Speech-to-Text Convertor is coupled to a media server and a processor. For example, Wise's Speech-To-Text Convertor 360 (speech recognition engine; green) resides on "speech IP [intelligent peripheral] 340" which handles text-to-speech and speech to-text conversions. Ex-1007, 8:33-36, Fig. 3 (blue border).

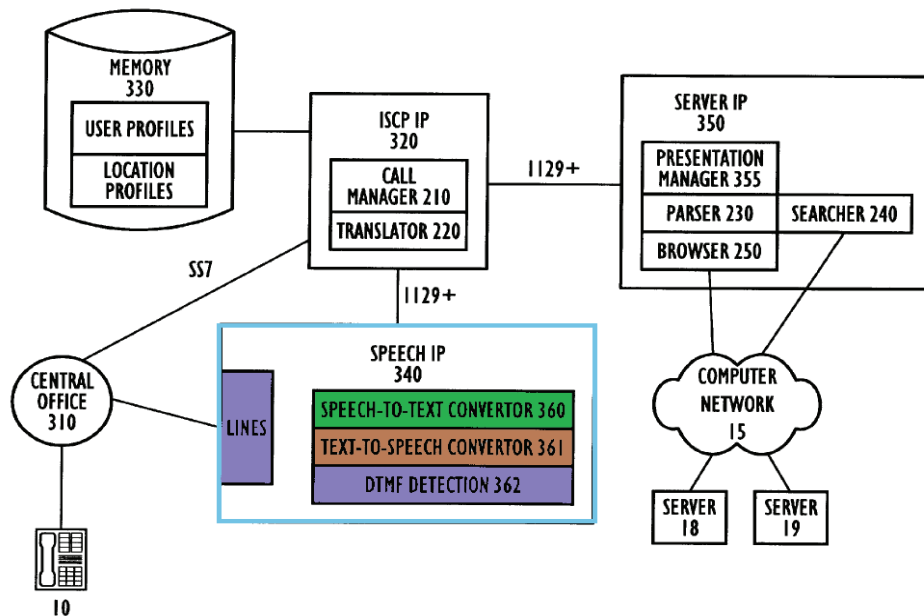


FIG. 3

104. Wise also discloses "[o]ther software 131... for controlling the inputs and outputs of the various boards 111-118" and that "[p]referably, all of the software and hardware architecture 100 resides on a single machine," e.g., "a DEC Alpha™1000 4/233 machine." Ex-1007, 5:33-37. As shown in Figure 1, Wise discloses that "[v]arious hardware boards for features such as... speech-to-text

conversion 114” reside in a layer above the operating system. Ex-1007, 3:66-4:7, Fig. 1 (speech-recognition engine; green); *see also* Fig. 2 (“translator 220”).

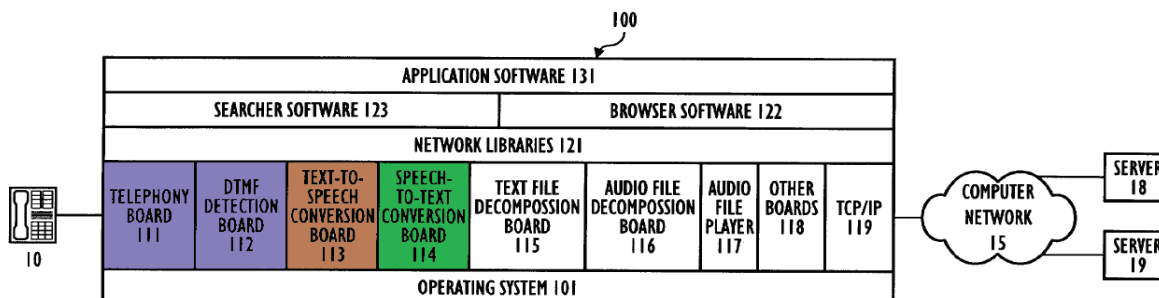


FIG. 1

105. A POSITA would have understood that Wise’s speech-recognition engine is coupled to a processor and media server because the Speech-to-Text convertor 360 resides on “speech IP 340,” as shown in Figure 3, performing the functions of the media server, and is coupled through software (OS) and hardware (DEC Alpha™ processor). This architecture resembles the speech recognition engine residing on the ’314 patent’s media server (*see* Ex-1001, Fig. 5). *Id.* Wise teaches that Speech IP and the other IP components can reside on a single machine or a plurality of machines. Ex-1007, 6:35-37 (single Alpha machine); 8:30-33 (plurality of networked machines).

- f. **1(a)[(ii)]/6(a)[(ii)]/11(a)[(ii)]/19(a)[(ii)]: the media server configured to identify and access [an/the] information source [from the plurality of information sources] via the network,**

106. Similar to the ’314 patent, Wise’s media server is configured to identify and access the information source via the network.

107. The '314 patent's media server "accesses the database 300" and retrieves "the personal recognition grammars 402" and "appropriate user-defined web site record 400" corresponding to the user's speech command. Ex-1001, 12:54-13:8. The media server "transmit[s the record]" to a web browsing server 302," which "accesses the web site 106... in the user-defined web site record" from the Internet. *Id.*, 13:8-9, 19-27. Thus, the only way the '314 patent describes the media server identifying and accessing a website information source via the network is by providing information corresponding to the user's speech command to the web-browsing server, triggering the web-browsing server to navigate to the website.

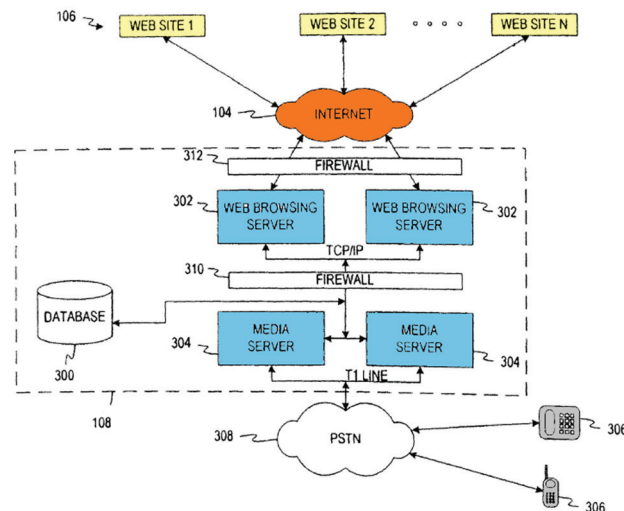


FIG. 3

108. Wise's server components, including the "speech IP," handle all text-to-speech and speech to-text conversions in the system. A "server IP" "handle[s] all interactions of the system with a computer network" and "contains a parser 230,

a searcher 240, and a browser 250.” Ex-1007, 8:33-36, 8:44-47. Wise’s “Call Manager 210” routes translated voice commands from Speech IP 340 to Parser 230, where the queried word/phrase may be matched to “a predetermined file address, stored in memory,” or sent “to Searcher 240” to find related file addresses on “target computer network 15.” Ex-1007, 6:31-49 (“D.C. area weather” example), Claim 8; *see also* Fig. 2. Wise’s media server (e.g., speech IP with ISCP IP) thus identifies and accesses a website information source the same way the ’314 patent’s media server embodiment does, by providing information corresponding to the user’s speech command to the server IP, triggering the server IP to navigate to the website.

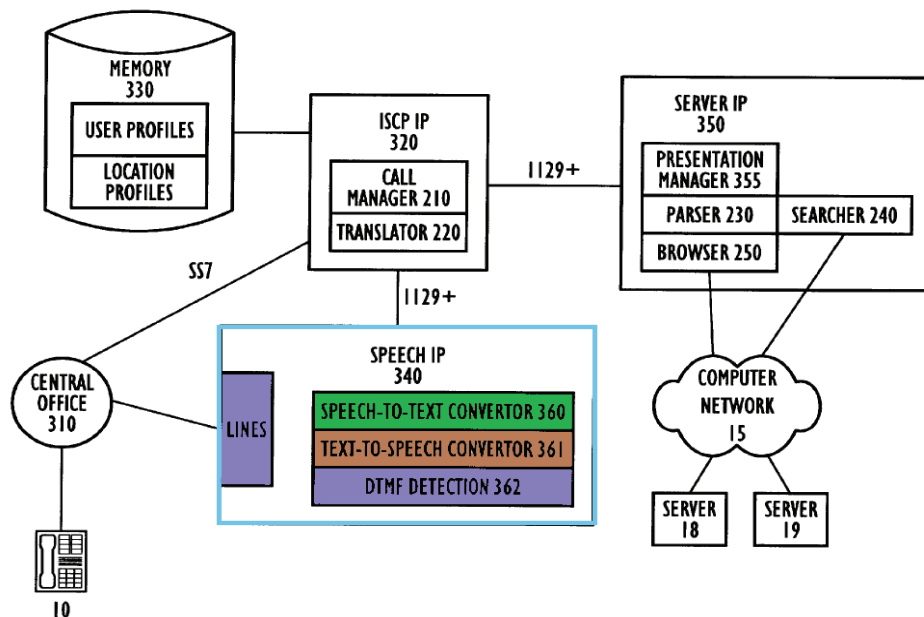


FIG. 3

109. Alternatively, a POSITA would also have understood that performing the server IP’s identifying and accessing functions on the same physical server as

the speech IP would have been an obvious way of implementing the system, because Wise's components are general purpose computer software and commercially available hardware components that can be arranged into a single hardware media server as an obvious matter of design choice (*see* MPEP 2144.04.VI.C). For example, Wise's "Call Manager [210 of the ISCP IP] could reside elsewhere in the system, such as in a Server IP." Ex-1007, 5:33-37, 8:40-44.

- g. 1(a)[(iii)]/6(a)[(iii)]/11(a)[(iii)]/19(a)[(iii)]: the speech-recognition engine adapted to select speech-recognition grammar established to correspond to the speech commands received[,] [from [certain of] the plurality of users and assigned to a desired search] [the speech-recognition grammar associated with the desired information];**

110. Wise's speech-recognition engine receives speech commands and selects the speech-recognition grammar corresponding to the speech commands received, assigned to a desired search, and associated with the desired information. Specifically, Wise "attempt[s] to match a speech input" (command) via a telephone "to a preselected list of potential selections or choices," i.e., "the dictionary of words that the voice recognition system will recognize." Ex-1007, 1:66-2:2, 2:50-58. For example, when the user desires information for the Baltimore Orioles, the selected recognition grammar correlating to "Baltimore Orioles" is "the most recent Baltimore Orioles baseball score." Ex-1007, 6:23-28.

111. A POSITA would have understood that Wise selects a speech-

recognition grammar corresponding to the received speech command(s) and assigned to a desired search by matching the words or phrases to preselected dictionary words represented by the grammar in order to match the user's desired search. Ex-1007, 2:50-55.

- h. 1(b)(i)/6(b)(i)/11(b)(i)/19(b)(i): [selecting, by] the media server[,] [further configured to/adapted to] [select] at least one information-source-retrieval instruction corresponding to the speech-recognition grammar established for a particular speech command,**

112. As discussed in Section XI.A.2.f., Wise's server components interact in a similar manner to the '314 patent's server components. For example, the '314 patent's media server "accesses the database 300" and retrieves "the personal recognition grammars 402" and "appropriate user-defined web site record 400" corresponding to the user's speech command. Ex-1001, 12:54-13:8. The media server "transmits the record to a web browsing server 302," which "accesses the web site 106 in the user-defined web site record" from the Internet. *Id.*, 13:8-9, 19-27. Thus, the only way the '314 patent describes the media server identifying and accessing a website information source via the network is by providing information corresponding to the user's speech command to the web-browsing server, triggering the web-browsing server to navigate to the website.

113. Wise's server components, including the "speech IP," handle all text-to-speech and speech to-text conversions in the system. A "server IP" "handle[s]

all interactions of the system with a computer network” and “contains a parser 230, a searcher 240, and a browser 250.” Ex-1007, 8:33-36, 8:44-47. Wise’s “Call Manager 210” routes translated voice commands from Speech IP 340 to Parser 230, where the queried word/phrase may be matched to “a predetermined file address, stored in memory,” or sent “to Searcher 240” to find related file addresses on “target computer network 15.” Ex-1007, 6:31-49 49 (“D.C. area weather” example), Claim 8; *see also* Fig. 2. Wise’s media server (e.g., speech IP with ISCP IP) thus identifies and accesses a website information source the same way the ’314 patent’s media server embodiment does, by providing information corresponding to the user’s speech command to the server IP, triggering the server IP to navigate to the website.

114. Wise discloses that “software applications such as standard network software libraries 121” are provided “to handle network communications.” Ex-1007, 4:17-23. Wise also includes instructions (i.e., library modules) that, for example, “allow searching of an index” “navigated based on the command.” Ex-1007, 4:24-5:28, 6:31-33. For example, when a user says “Baltimore Orioles,” this command is received and interpreted as an instruction to retrieve the most recent Baltimore Orioles baseball score. Ex-1007, 6:23-28. As another example, Wise “checks the closing price of a certain stock and the traffic report for the area near the user’s house in Silver Spring, Md” based on an instruction corresponding to the

speech-recognition grammar of the particular speech command. Ex-1007, 8:65-9:12. A POSITA would have understood that Wise's software applications include "information-source-retrieval instruction[s]," because they include sets of stored data (e.g., documents (i.e., website listings)) and executable code (e.g., library modules) that instruct the system how to locate and retrieve requested information.

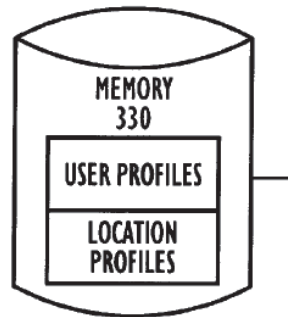
115. Moreover, because Wise contemplates both single and multiple machine implementations, a POSITA would have understood that the discussed searching would have been performed by the server hosting the speech IP because arranging these program modules as a single physical server is an obvious matter of design choice (*see* MPEP 2144.04.VI.C) based on available hardware and computational load, and based on Wise's teachings of arranging its various functional components in a single box. *See* Ex-1007, Fig. 2.

- i. **1(b)(ii)/6(b)(ii)/11(b)(ii)/19(b)(ii): the at least one [appropriate] information-source-retrieval instruction stored in a database associated with the media server and adapted to retrieve information [from a particular one of the information sources that has the desired information];**

116. As discussed in the previous section, Wise discloses information-source-retrieval instructions. Ex-1007, 4:17-23. A POSITA would have been motivated to store these information-source-retrieval instructions in a database associated with the media server and adapted to retrieve information in view of Wise's teaching that databases are a standard format for storing computer files (*id.*,

7:28-29).

117. Furthermore, Wise discloses that its “[f]ile server memory 330 contains user profiles and location profiles that direct the creation of custom reports” for a user based on user preferences. Ex-1007, 3:9-18, 8:67-9:2, Fig. 3.



118. A POSITA would have understood that the information-source-retrieval instructions corresponding to the recognition grammar for a particular speech command would be stored in memory 330 and adapted to retrieve information from a “particular one of the information sources that has the desired information” as saved in Wise’s “user profiles.” A POSITA would have recognized that to obtain “Washington, D.C. area weather” (Ex-1007, 6:14-20), for example, would most logically rely on particular go-to information sources, such as Weather Channel, i.e., weather.com.

119. This is specifically taught by Woods. Woods’s “Database 170 stores information used by voice portal 10, such as, customer data, advertising information, and product and services information... into existants.” Ex-1012, 11:22-32; *see also id.*, 10:65-66 (in Woods, “existants” are a data structure for

“things and their relationships and associations with each other”). For example, if the user says “Weather,” the voice portal continues and says “Welcome to Weather, brought to you by the Weather Channel” using the existants saved in database 170. Ex-1012, 24:43-60. A POSITA would have understood to implement Woods’s storing information used by the voice portal, into Wise’s file server memory to easily retrieve the information from a particular source.

j. **1(c)/6(c): [accessing, by] a web-browsing server[,]
[coupled to the media server and adapted to access] a
portion of the information source to retrieve
information of interest requested by the particular
user, by using a processor of the web-browsing server,
which processor**

**11(c)/19(c): [providing access, by the speech
command, via] a web-browsing server, [adapted to
provide access, by the speech command,] to a portion
of the information source to retrieve the desired
information[,]
[for the particular user,] by using a
processor of the web-browsing server, which
process[or]**

120. Wise’s servers “handle[s] all interactions of the system with a computer network.” Ex-1007, 8:33-36. Wise states that “ISCP 320,” which is coupled to the server IP and speech IP (*see id.*, Fig. 3), “interacts with Web Server IP 350 via standard [Bellcore] 1129+ specifications,... contain[ing] a parser 230, a searcher 240, and a browser 250.” Ex-1007, 8:44-47. As shown in Figure 3, parts of Wise’s “speech IP” modules may be implemented separate from portions of Wise’s “server IP.” Ex-1007, 10:20-28.

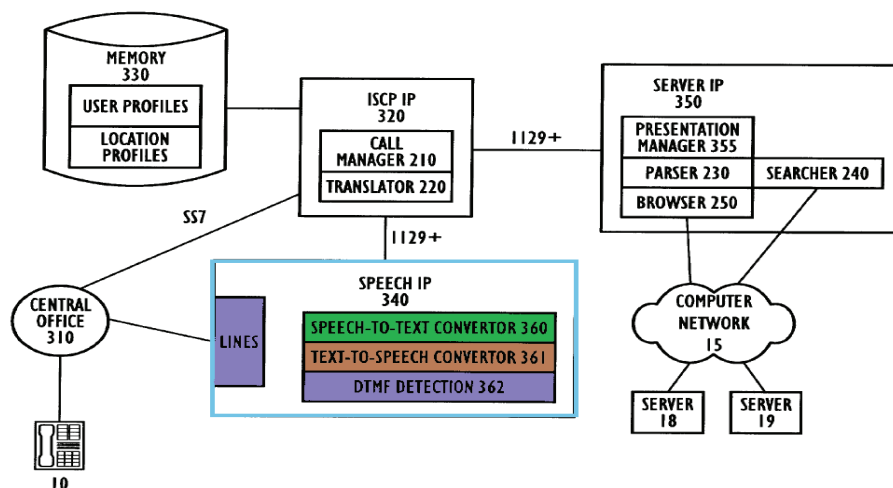


FIG. 3

121. Wise’s “Call Manager 210” routes translated voice commands from telephone 10 to Server IP 350 and, specifically, to Parser 230, where the queried word/phrase may either be matched to “a predetermined file address, stored in memory,” or sent “to Searcher 240” to find related file addresses on “target computer network 15.” Ex-1007, 6:39-46. For example, Wise discloses that “the [s]earcher” “may find uniform resource locators (URLs)” of webpages regarding the phrase “Washington D.C. area weather.” Ex-1007, 6:17-18, 6:46-51. A POSITA would have understood that Wise’s web searching/accessing portions, including Searcher 240, would have been implemented on a standard web server typically used for web searching.

122. Accordingly, a POSITA would have understood that Wise’s “searcher 240” provides access to portions of information sources in order to retrieve the desired information. Furthermore, a POSITA would have understood that the

discussed portions of Wise's "server IP" would have been implemented on a CPU-based "web browsing server" because Wise's server IP provides access to computer network 15, receives responses from websites by its browser or searcher, and extracts the data requested by the user using a parser.

k. 1(c)(i)/6(c)(i)/11(c)(i)/19(c)(i): performs an instruction that requests information from an identified webpage, and

123. As discussed for the previous limitation, a POSITA would have understood the web searching portions of Wise's server IP to be a computer having a CPU or processor. A POSITA would have also understood that the processor performs an instruction requesting information from an identified webpage by Parser 230 either matching the subject word/phrase to "a predetermined file address, stored in memory," or sending it "to Searcher 240," a computer program, to find file addresses on "target computer network 15" relating to the word/phrase. *Id.*; Ex-1007, 6:40-45.

l. 1(c)(ii)/6(c)(ii)/11(c)(ii)/19(c)(ii): utilizes a content extractor within the web-browsing server to separate a portion of the information from other information, the information [is] derived from only a portion of [the/a] webpage containing information of interest to [the/a] particular user,

124. Wise's Parser 230 (i.e., "content extractor"), separates a portion of the webpage containing information of interest to the user from other information on the webpage. Wise's system "respond[s] to a user input to navigate the

document... based on content of the document.” Ex-1007, 2:59-61. Specifically, “[w]hen a document is accessed, it will be processed” through Parser 230, which “interpret[s] the content of the document” and “select[s] what portions of the document are converted to speech.” Ex-1007, 5:66-6:1, 2:28-34. For example, “[h]eadings, labels, text, graphics, audio information, comments, and other types of content” are identified by Parser 230 for Call Manager 210 “to handle appropriately”; and “[l]abels, document names, and text” can be passed to “a text-to-speech converter.” Ex-1007, 6:1-5. Additionally, Parser 230 “dynamically analyzes” the file’s “structure and contents” after it is received from Browser 250. Ex-1007, 7:7-14.

125. Moreover, Wise discloses that a website “may contain tags designating links or portions of a document” and the system “attempt[s] to navigate to a location corresponding to a user command and effect any action possible at that location.” Ex-1007, 2:61-66. For instance, when “a user inputs a command corresponding to a stock symbol, the system may skip ahead to the symbol and begin ‘reading’ at the location of the stock symbol.” Ex-1007, 3:4-8. A POSITA would have recognized this as content extraction.

126. Wise also discloses that “[t]he AIN network could be aware of the availability of a user[’s] profile,” in which case, the system is directed to initially prompt the user to “Press 1 for the Bell Atlantic stock closing price” instead of

requiring that the user “travers[e] several system menus and submenus to access the desired information.” Ex-1007, 9:2-12. A POSITA would have understood, therefore, that the content extractor would rely on the user profiles to derive information of interest to the user.

127. To the extent that Wise does not disclose “only a portion of the webpage,” it was well-known in the art, as disclosed by Woods. Woods discloses with Figure 9 “a search page is found and patterns are used to isolate the area on the page containing relevant information.” Ex-1012, 15:8-10.

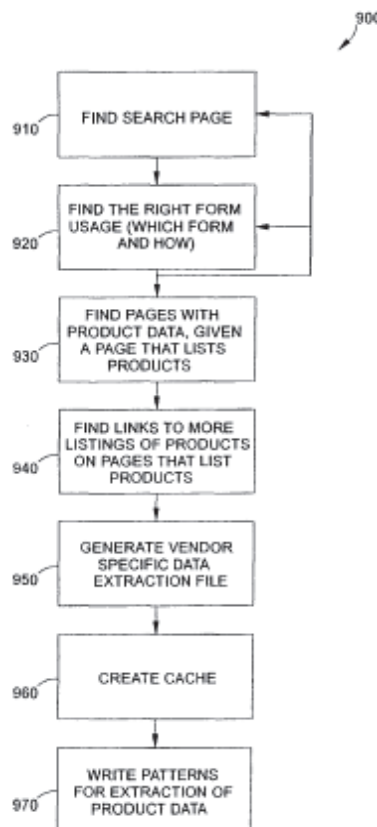


FIG. 9

Next, “an appropriate form is found” indicating “the location of relevant information on the page” and “special routines are invoked to extract actual data and information.” Ex-1012, 15:10-13, 16:49-51. “[M]ultiple pages with related information is found given a particular page” and “an area pattern” is created “that defines where data specific patterns operate in the particular page.” Ex-1012, 15:13-17. Moreover, Woods’s “process allows for data to be extracted from web sources[,]... semantically identified[,] and prepared for speech transmission via a speech interface.” Ex-1012, 24:23-25.

128. A POSITA would have been motivated to implement Woods’s content extractor functionalities into Wise’s Parser to ensure that only the desired information is extracted from the webpage, thereby improving the efficiency of the search process. A POSITA would have had a reasonable expectation of success in doing so because it is implemented by computer-executed instructions involving no more than ordinary skill to apply. *Id.*

- m. **1(c)[(iii)]/6(c)[(iii)]/11(c)[(iii)]/19(c)[(iii)]: wherein the content extractor uses a content-descriptor file containing a description of the portion of information and wherein the content-descriptor file indicates a location of the portion of the information within the information source[;/,] [and]**

129. As discussed in the previous section, Wise discloses “documents may contain content which is useful for navigation” such as “tags” “designat[ing] links or portions of a document,” like a webpage, for the system to “navigate to a

location corresponding to a user command.” Ex-1007, 2:61-66; *see also id.*, 2:66-3:8 (stock symbol example). A POSITA would have understood that software residing on the server IP uses Wise’s tags and “file[s] associated with the web page” to execute the functionality of the “content-descriptor file” because they contain the content of the document that directs the extraction agent (Parser 230) to identify and interpret data from the website. *See also* Ex-1001, 3:44-46 (“content descriptor file indicates where the information selected by the user is located on the web page”), 6:25-27 (“content descriptor file 604 directs the extraction agent where to extract data... and how to format a response to the user”).

130. A POSITA would have understood that this software residing on the server IP is stored in script “files” to be accessed by the content extraction agent (Parser 230), because this would be the most convenient way to execute scripts that parse tag data accessed by Wise’s system. Ex-1007, 10:7-19.

131. Alternatively, Woods allows rule writers to “select from a variety of forms” to retrieve information “from particular web sites available via WWW 1020.” Ex-1012, 17:6-10, 16:47-49. These forms may indicate “the location of relevant information on the page” and be “labeled with some distinctive tag.” Ex-1012, 16:49-51. For instance, a webpage “may include a data input box” and “relevant information on a part or service... after a HTML tag, such as, ‘<title>’ for the title of a book.” Ex-1012, 16:52-56. As explained above, “an appropriate

form is found and special routines are invoked to extract actual data and information.” Ex-1012, 15:10-13

132. A POSITA would have understood that Woods’s content extractor uses forms (content descriptor files) containing a description and indication of the portion of information within the information source. A POSITA would have been motivated to implement Woods’s content descriptor files into Wise’s Parser for the same reasons as explained above in Section XI.A.2.1.

- n. **1(d)/6(c)[(iv)]/11(d)/19(c)[(iv)]: [and] selecting[,] by the web-browsing server[,] the [desired] information [of interest] from the [appropriate] information source and retrieving only the portion of the information [of interest requested/desired] by the particular user according to the at least one information-source-retrieval instruction; [and]**

133. As discussed in Section XI.A.2.h., Wise discloses information-source-retrieval instructions that, e.g., “allow searching of an index” and the system to “navigate based on the command.” Ex-1007, 4:17-5:28, 6:14-33. A POSITA would have understood that both Wise’s speech IP and server IP perform their respective functions according to the information-source-retrieval instructions.

134. Specifically, Wise’s “Call Manager 210” routes translated speech commands to Parser 230, located in the server IP, where the queried word/phrase may either be matched to “a predetermined file address, stored in memory,” or sent “to Searcher 240,” a computer program, to find (select) related file addresses on

“target computer network 15.” Ex-1007, 6:39-46. The “parser will select what portions of the document are converted to speech.” Ex-1007, 2:28-34. Moreover, Wise’s “AIN network could be aware of the availability of a user[’s] profile,” in which case, the system is directed to initially prompt the user to “Press 1 for the Bell Atlantic stock closing price” instead of requiring that the user “travers[e] several system menus and submenus to access the desired information.” Ex-1007, 9:2-12.

135. Woods also discloses selecting and retrieving only the portion of the information desired by the user, using forms and “special routines” to select and retrieve the portion of the information desired. Ex-1012, 15:8-17. As discussed in Sections XI.A.2.1.-m., Woods’s forms indicate “the location of relevant information on the page” and are “labeled with some distinctive tag.” Ex-1012, 16:49-51.

136. A POSITA would have been motivated to implement Woods’s “forms” and “special routines” techniques for selecting and retrieving only the information of interest to the user from the webpage into Wise’s system to improve the efficiency of the search process. A POSITA would have had a reasonable expectation of success in doing so because it is implemented by computer-executed instructions involving no more than ordinary skill to apply. *Id.*

- o. 1(e)/11(e): converting the information retrieved from the information source into an audio message by a**

speech-synthesis engine, the speech-synthesis engine coupled to the media server; [and]

6(d)[(i)]/19(d)[(i)]: a speech-synthesis engine [including a processor and] coupled to the media server, [the speech-synthesis engine/and] adapted to convert the [portion of the] information [retrieved] from the information source into an audio message [and/or the particular user of the plurality of users]

137. Wise “use[s] a text-to-speech engine to convert the document [i.e., webpage] to audio information.” Ex-1007, 2:11-17. Specifically, Wise “pass[es] the document through a parser to interpret its contents” and then through “a text-to-speech engine to read the text.” Ex-1007, 2:28-34 (“[P]arser will select what portions of the document are converted to speech.”), Fig. 1 (113), Fig. 3 (361). For each file section, Parser 230 “passes the structure type and... associated text” to Call Manager 210, “which routes it to the appropriate board to create an audio file to be played by audio file player 270.” Ex-1007, 7:34-55 (“[A] text-to-speech convertor output could [also] be bridged directly to a telephone line instead of creating an audio file for playing by the audio file player.”).

138. Wise’s speech-synthesis engine is part of the “speech IP.” Ex-1007, Fig. 3 (Text-to-Speech Convertor 361 (speech-synthesis engine; brown)).

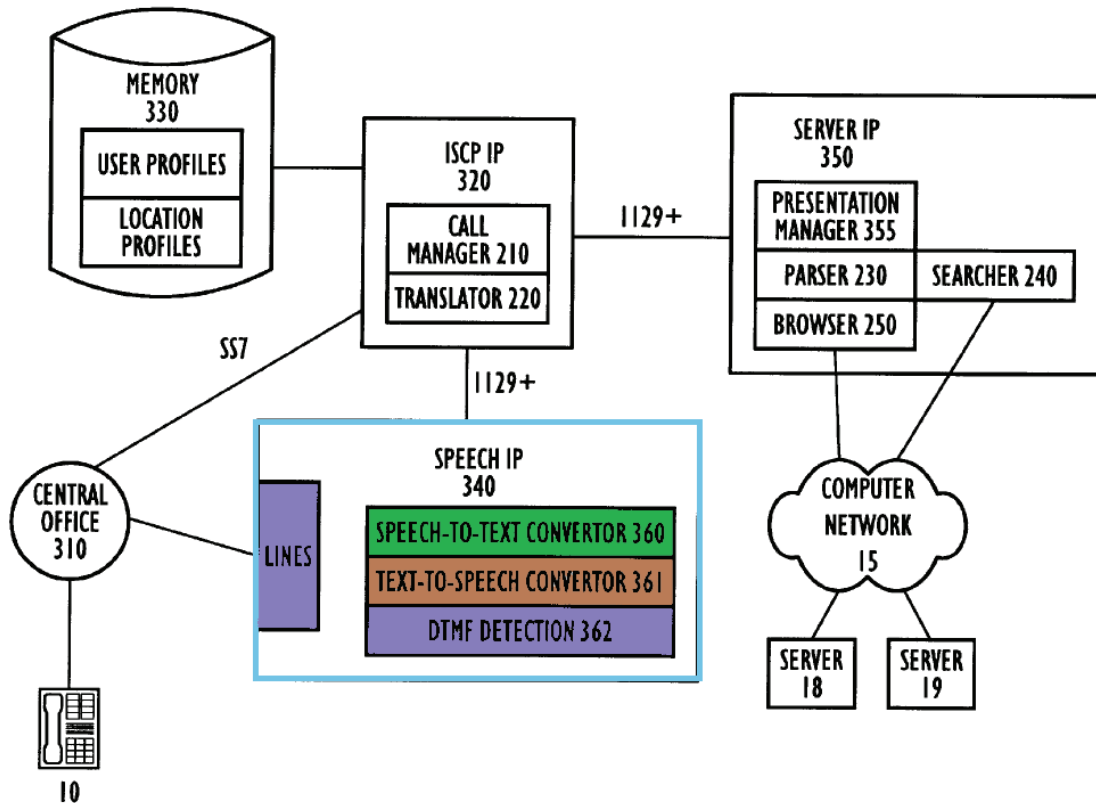


FIG. 3

As discussed in Sections XI.A.2.d.-e., and for the same reasons, a POSITA would have understood that Text-to-Speech Convertor 361 would reside on (and therefore be coupled to) the same physical server hosting the “speech IP,” which includes a processor. *Id.*

- p. **1(f)/6(d)[(ii)]:** transmit[ting] the audio message [to/by] the electronic-communication device of the particular user requesting information of interest to the particular user.

11(f)/19(d)[(ii)]: [and] conveying the audio message through the electronic-communication device to the [respective electronic-communication device of the particular user requesting the desired information/particular user of the plurality of users]; and

139. As discussed in the previous section, Wise transmits/conveys the audio message to the user's electronic-communication device. Ex-1007, 7:34-55.

- q. **11(g)/19(e): [providing] a graphical display [interface coupled to the media server] and adapted to [provide for] display the desired information retrieved from the information source to the particular user on [the respective electronic-communication device of the particular user/certain others of the plurality of users].**

140. Wise discloses providing both audio transmission and visual display of the retrieved information. The server IP contains "presentation manager 355," which "determine[s] the user's equipment and format[s] the presentation of information from the network appropriately." Ex-1007, 8:47-50. For instance, if the user's equipment is "a personal computer rather than a telephone, the presentation manager would modify the presentation format **for an audio/visual interface** rather than [only] an audio interface." Ex-1007, 8:10-13, 8:50-54.

141. Moreover, Wise includes modules (*id.*, 4:22-23), e.g., to "display a list of previously viewed documents" (*id.*, 4:61); "display an index of potentially useful documents" (*id.*, 4:66); "display information on the current document and link" (*id.*, 5:9); and "display choices for printing the current document" (*id.*, 5:10). A POSITA would have understood that the graphical display, such as on a personal computer or PDA, may be "coupled to the media server" such as Wise's speech IP directly or via the network.

142. To the extent that Wise does not explicitly recite a graphical display to display the desired information, it was well-known in the art, as disclosed by Woods. Specifically, Woods’s “graphical user interface (GUI) 1900,” displays when a page match is found; “[d]ata organizing tool 1025 (FIG. 10)” “displays the resulting page in the Internet browser”; and “graphical user interface (GUI) 2000,” which “appears and asks how to detect single items on the page if the search matches on multiple items” and “indicate[s] where to find the URL to get details about the queried item.” Ex-1012, 18:21-30.

143. A POSITA would have been motivated to implement Woods’s graphical user interface that displays the desired information into Wise’s system to allow visual user interaction during the search process and enhance the user’s experience. Ex-1012, 19:50-62. A POSITA would have had a reasonable expectation of success and would have known how to program this functionality into Wise’s presentation manager which already “determine[s] the user’s equipment and format[s] the presentation of information from the network appropriately.” Ex-1007, 8:47-50.

3. Dependent Claims 2-5, 7-10, 12-18, and 20-26

- a. 2: The method of claim 1, further comprising:
searching, by the media server, an associated website
to locate requested information.**

144. As explained in Section XI.A.2.f., Wise’s Parser 230 (located on the

server IP) matches the subject word/phrase to “a predetermined file address, stored in memory,” or sends it “to Searcher 240,” a computer program, to find file addresses on “target computer network 15” relating to the word/phrase. Ex-1007, 6:40-45. The address is passed to Browser 250 which returns the requested downloaded file to Parser 230 which analyzes the file’s contents and structure (e.g., “determine[s] the title of the Web page”). Ex-1007, 7:7-20. A POSITA would have understood that Wise’s media server searches an associated website to locate the requested information because Wise’s speech IP communicates with its server IP via network 15. *See, e.g.*, Ex-1007, 9:47-53. Furthermore, a POSITA would have understood that Wise’s parser on the server IP, which searches the “structure and contents of the downloaded file,” could be implemented on Wise’s speech IP because rearranging the components of Wise’s system when all of the components are just programming would have been an obvious matter of design choice (*see* MPEP 2144.04.VI.C), as exemplified by Woods.

145. Alternatively, Woods’s “voice portal” receives the user’s command and searches “an associated website to locate the requested information.” Specifically, Woods’s “voice portal 10 is implemented as a network of servers,” and “includes a user interface 110,” “an existant subsystem 140, a fusion engine 150, an update engine 160, and a database 170.” Ex-1012, 6:8-9, 6:34-38. Woods’s “process allows for data to be extracted from web sources,... semantically

identified[,] and prepared for speech transmission via a speech interface.” Ex-1012, 24:23-25. For example, Woods discloses that “information is identified on []found web pages by using a chosen form which overlays the page to filter out particular information” and “rules are used to identify characteristic information or attributes from the information retrieved by the form overlay.” Ex-1012, 14:22-28, 14:28-30, Fig. 7.

146. A POSITA would have implemented Woods’s functionality of searching an associated website to locate requested information into Wise’s parser (on the media server) to “deliver information garnered from [the] Internet []to users... in a timely and highly utilitarian way.” Ex-1012, 11:55-64. A POSITA would have had a reasonable expectation of success incorporating this functionality into Wise’s system since it is implementing software programming on a computer.

b. 3[A]/8[A]/13[A]/21: The [method/system] of claim [1/6/11/19], wherein the respective electronic-communication device is at least one of a landline telephone, a wireless telephone, [and] [an internet protocol telephone][.]

147. Wise’s electronic-communication device is “[a] standard telephone 10, either analog (POTS) or digital (ISDN)” (i.e., a landline telephone) connected to “architecture 100 using a standard POTS or ISDN telephone line.” Ex-1007, 3:52-55. Moreover, Wise discloses that when telephone 10 is connected to system

200, “Call Manager 210 software implemented on a computer directs the audio file player 270 to recite a voice prompt, such as ‘You have reached the Audio Web Connection.’” Ex-1007, 5:39-51.

- c. **3[B]/8[B]: and [wherein] the media server is operatively connected to [the network, which is] at least one of a local-area network, a wide-area network, and the internet.**

13[B]/22: [The system of claim 19,] [and] wherein the media server is operatively connected to the network, which is at least one of a local-area network, a wide area network, and the internet.

148. Wise’s architecture 100 is “connected through a computer network 15, such as the Internet, to various... Web servers.” Ex-1007, 3:51-61 (also disclosing “WANs and LANs”), 3:66-4:6 (“A communication protocol 119, such as... TCP/IP..., resides above the operating system.”).

149. A POSITA would have understood that Wise’s speech IP, which includes the speech-recognition engine (speech-to-text conversion board 114 and speech-to-text convertor 360) and speech-synthesis engine (text-to-speech conversion board 113 and text-to-speech convertor 361) of Figures 1 and 3, is part of architecture 100 and thus operatively connected to the Internet.

- d. **4/9/17: The [method/system] of claim [1/6/11], wherein the media server functions as a user-interface system adapted to provide access to a voice-browsing system.**

150. Wise’s media server functions as a user-interface that provides access

to a voice-browsing system. Specifically “telephone 10 is connected to a central office 310, which handles telephony interfacing, that is connected to an intelligent signal control point (ISCP) 320 via SS7 signalling.” Ex-1007, 8:37-39. While Wise provides an example of Call Manager 210 and translator 220 residing in the ISCP320, the “Call Manager could reside elsewhere in the system” to “handle[] the interactions between the computer network, the requested file, and the user.” Ex-1007, 8:40-43; *see also* 6:14-30, Claim 1 (“an audio interface for receiving a user command; a call manager connected to the audio interface for controlling the routing of information to and from the audio interface”). Moreover, Wise’s “speech IP” is connected to “telephone 10 through SS7 lines to central office 310.” Ex-1007, 8:63-64. Therefore, a POSITA would have understood that Wise’s speech IP functions as a user interface providing access to a voice-browsing system because it is connected to the user’s telephone 10 which provides voice web-browsing.

- e. **5: The method of claim 1, further comprising: clipping engine adapted to initially generate the content-descriptor file that indicates the location of the portion of the information within the information source.**

10[A]/18[A]: The method of claim [6/11], further comprising: clipping engine [adapted to generate/coupled to] the content-descriptor file, ... wherein the information is only the portion of the webpage containing information of interest to the particular user.

151. Wise discloses that AIN “features may be incorporated into the system to allow access to individual user profiles using” e.g., caller ID or “location ID information, user preferences, and sensitive networks using a combination of caller ID, password, and voice recognition information.” Ex-1007, 3:9-18. The user and location profiles “direct the creation of custom reports” and are stored in file server memory 330. Ex-1007, 8:67-9:2. For example, “[t]he AIN network could be aware of the availability of a user[’s] profile,” in which case, the system is directed to initially prompt the user to “Press 1 for the Bell Atlantic stock closing price” instead of requiring the user “travers[e] several system menus and submenus to access the desired information.” Ex-1007, 9:2-12.

152. A POSITA would have understood that Wise’s custom reports made based on user and location profiles indicate the location of the portion of the information containing the desired information. Wise does not explicitly disclose a “clipping engine,” but it was well-known in the art as disclosed by Woods.

153. Woods discloses a clipping engine, with its “data organizing tool 1025,” which allows rule writers to “select from a variety of forms” to retrieve information “from particular web sites available via WWW 1020.” Ex-1012, 17:6-10, 16:47-49. These forms may indicate “the location of relevant information on the page” and be “labeled with some distinctive tag.” Ex-1012, 16:49-51. For instance, a webpage “may include a data input box” and “relevant information on a

part or service... after a HTML tag, such as, '<title>' for the title of a book." Ex-1012, 16:52-56.

154. Data organizing tool 1025 "displays the resulting page in the Internet browser" and the rule writer confirms whether the page is correct by clicking "okay" on the graphical user interface (GUI). Ex-1012, 18:24-26, Fig. 10. A GUI may also "appear[] and ask[] how to detect single items on the page if the search matches on multiple items" and "indicate where to find the URL to get details about the queried item." Ex-1012, 18:26-30, Fig. 20. Woods also discloses that "information is identified on []found web pages by using a chosen form which overlays the page to filter out particular information" and "rules are used to identify characteristic information or attributes from the information retrieved by the form overlay." Ex-1012, 14:22-30, Fig. 7.

155. A POSITA would have been motivated to implement Woods's "data organizing tool 1025" (clipping engine) into Wise because it would enhance the accuracy and efficiency of retrieving the requested information by determining the information's' location in the source prior to identifying and extracting it; thus providing "lower costs to update information available at web sites" and "automat[ing] accurate retrieval of Internet-based information." Ex-1012, 19:50-62. Furthermore, once rules are created, "data contained on web pages from data sources" may "continually be updated to" the database because the data

organization tool 1025, using the forms selected by rule writers, “detects when web pages have changed the format or arrangement of data on their corresponding web page,” thus ensuring that only the portion of information of interest to the user is generated. Ex-1012, 17:10-17. A POSITA would have had a reasonable expectation of success implementing Woods’s “data organizing tool 1025” into Wise because it is implemented by computer-executed instructions involving no more than ordinary skill to apply.

- f. 10[B]/18[B]: by which, [an/the] instruction [is used by the web-browsing server to] request[s] information from the identified website and the information is displayed on the respective electronic-communication device,**

156. Woods discloses limitations 10[B]/18[B] for the same reasons discussed in the previous section. Specifically, Woods’s “forms” requests “the location of relevant information on the page” and are “labeled with some distinctive tag.” Ex-1012, 16:49-56. As discussed in Section XI.A.2.m., Wise’s server IP (intelligent peripheral) includes a parser (context extractor) and tags (content descriptor files). A POSITA would have understood and been motivated to use Woods’s forms that instruct and identify the page’s relevant portion, to be used by Wise’s web-browsing server for the same reasons discussed for limitations 10[A]/18[A]. The information is then displayed on the respective electronic-communication device as discussed in Section XI.A.2.q. above.

- g. 7/12/20: The [system/method] [of] claim [6/11/19], further comprising: an interface to [a plurality of/an] associated website[s] [of the information source] by the network to locate [requested/the desired] information.**

157. As discussed in Section XI.A.2.j., Wise discloses a “server IP” which includes a searcher that “may be outside of the system” (as shown in Fig. 2) “or part of the system itself (not shown).” Ex-1007, 6:49-51. Wise’s searcher may, e.g., find URLs of webpages relating to the phrase “Washington D.C. area weather” if the “target computer network is the Internet.” Ex-1007, 6:46-51. A POSITA would have understood that the server IP serves as an “interface” to a plurality of associated websites of the information sources accessed by the network.

158. To the extent that Wise does not explicitly disclose an “interface to [a plurality of/an] associated website[s]” it was well-known in the art, as disclosed by Woods. Specifically, Woods’s “voice portal” includes a user interface which “coordinates voice communications with a user” and is coupled to a database for “stor[ing] information regarding users and Internet-based information” and an update engine “in communication with the Internet” to “provide[s] updated Internet-based information.” Ex-1012, 2:30-37.

159. A POSITA would have been motivated to combine Wise and Woods and had a reasonable expectation of success in doing so, namely, to “deliver

information garnered from [the] Internet []to users... in a timely and highly utilitarian way.” Ex-1012, 11:55-59. A POSITA would have recognized that “[p]eople need and use information in a variety of settings and ways, and, advantageously, voice portal[’s interface] supports this on a variety of platforms.” Ex-1012, 11:59-64. A POSITA would have had a reasonable expectation of success in doing so, since it is software programming implemented on a computer.

- h. 14/23: The [method/system] of claim [11/19], [wherein the web-browsing server further comprises the content-descriptor file, which is stored within the web-browsing server,] wherein the content-descriptor file relates to obtaining the desired information from a website.**

160. Wise discloses Claims 14/23 for the same reasons discussed in Section XI.A.2.m.

- i. 15/24: The [method/system] of claim [11/19], wherein the speech command includes a phrase provided by the [certain users/particular user], the phrase associated with an identified website and information [available at the website].**

161. Wise discloses that the user’s speech command includes a phrase associated with an identified website and information available at that website such as, e.g., “Washington D.C. area weather,” “Silver Spring, Md. traffic,” or “Baltimore Orioles.” Ex-1007, 6:14-20. The user’s speech command, e.g., “Baltimore Orioles,” is captured by Call Manager 210 and sent to translator 220 which uses speech-to-text engine 114 or speech recognition to interpret the

command as a request for “the most recent Baltimore Orioles baseball score.” Ex-1007, 6:20-28; *see also id.*, Claim 1 (“a translator connected to the call manager for translating the user command into a subject word or phrase”), Claim 7 (“searching a computer network for file addresses of files related to the subject word or phrase”). Therefore, Wise’s system allows for a user’s speech command to include a phrase associated with an identified website and information.

j. 16/25: The [method/system] of claim [11/19], wherein a command for executing [a/the] content-extraction agent [are/is] stored in a database associated with the media server and used for voice browsing.

162. Wise discloses “file server memory 330,” which “contains user profiles and location profiles that direct the creation of custom reports,” and is preferably “connected to ISCP 320 to reduce traffic across the AIN” (but “may be connected at any point in the AIN”). Ex-1007, 8:65-9:2. Moreover, Wise’s “AIN network could be aware of the availability of a user[’s] profile,” in which case, the system is directed to initially prompt the user to “Press 1 for the Bell Atlantic stock closing price” instead of requiring the user “travers[e] several system menus and submenus to access the desired information.” Ex-1007, 9:2-12.

163. A POSITA would have understood that Wise’s file server memory stores a “command” or code to execute the “content extraction agent” (parser), when it directly prompts the system to access the desired information like the “Bell Atlantic stock closing price.” Moreover, a POSITA would have been motivated to

store a command for executing a content extraction agent in a database associated with the media server (i.e., speech IP, which includes the speech-recognition and synthesis engines) and used for voice browsing, in view of Wise's storage of user profiles.

k. 26: The system of claim 19, further comprising: a database wherein a personal-recognition grammar is stored in the database and relates to web information.

164. Wise discloses "file server memory 330," which "contains user profiles and location profiles that direct the creation of custom reports" for individual users and is preferably "connected to ISCP 320 to reduce traffic across the AIN" (but "may be connected at any point in the AIN"). Ex-1007, 8:25-26, 8:65-9:2. Wise's "AIN network could be aware of the availability of a user['s] profile" which directs the system to initially prompt the user to "Press 1 for the Bell Atlantic stock closing price and the traffic report for the Silver Spring area," based on the user regularly checking the closing price of a certain stock and the traffic report of the area near the user's house. Ex-1007, 9:2-12. This is a saved personal-recognition grammar used instead of requiring that the user "travers[e] several system menus and submenus to access the desired information." *Id.*

165. Additionally, Woods discloses that "[v]ocabulary sets advantageously allow voice portal 10 to have a limited number of possible responses from which to use in speech recognition of user response... in the vertical domain of interest."

Ex-1012, 27:19-23. For example, the system more easily “recognize[s] the term ‘Brewers’ after the user has selected Major League Baseball (MLB) teams and a vocabulary set of possible requests for MLB teams has been built.” Ex-1012, 27:25-35. Woods further discloses a customer management subsystem that can pull user preferences, “such as stock information, weather preferences and (the like) from personalized web pages such as MyYahoo, and My Excite” or can be built in response to user commands. Ex-1012, 10:4-14.

166. A POSITA would have been motivated to store Woods’s vocabulary sets in Wise’s user profiles customized to the individual user, resulting in a personal-recognition grammar similar to that disclosed by the ’314 patent (Ex-1001, 4:51-59), to have a “defined vocabulary set” to better tailor searches to the user’s preferences and thus return information most likely to be of interest to the user. Ex-1012, 9:1-5 (“how to improve the customer’s service.”), 10:4-14, 27:23-25. A POSITA would have had a reasonable expectation of success for the reasons, since it is software programming implemented on a computer.

167. As I explained above in Section VII.C., storing a personal recognition grammar relating to web information in a database, was well known. As shown in Brown in 1999 web information, such as HTML, section titles, hyperlinks, and other indicators are combined with voice commands and stored in an optimized finite-state network in order to contain the “possible sequences of words that can

be recognized.” Ex-1015, 5:60-6:18. Furthermore, Uppaluru further discloses having speech training pages that include “personalized speech recognition patterns representing the context sensitive vocabulary for the corresponding service page.” Ex-1014, 17:38-35, 17:46-49.

B. Ground 2: Claims 1-25 Would Have Been Obvious over Wise in View of Dasan

1. A POSITA would have been motivated to combine the teachings of Wise and Woods and would have had a reasonable expectation of success in doing so.

168. As set forth in detail below when discussing relevant limitations (*see, e.g.,* Sections XI.B.2.a., XI.B.2.c.-XI.B.2.g., XI.B.3.a., XI.B.3.c.-XI.B.3.e.), a POSITA would have been motivated to combine the relevant teachings of Wise and Dasan, and would have a reasonable expectation of success in doing so, because both relate to information retrieval systems that allow communication between a user and a server to obtain information of interest to the user. Ex-1007, Abstract; Ex-1013, Abstract.

2. Independent Claims 1, 6, 11 and 19

**a. 1[Pre(i)]/6[Pre(i)]/11[Pre(i)]/19[Pre(i)]: A[n]
[method/system/information-retrieval
system]...[comprising:]**

169. Wise discloses these limitations for the same reasons discussed in Section XI.A.2.a.

170. Dasan discloses “[a]n automatic method and system for retrieving

information based on a user-defined profile (e.g. a personalized newspaper).” Ex-1013, 2:2-5. Specifically, Dasan “examines the database of information and automatically retrieves a subset of the information from the database based upon the user-defined profile at periodic intervals, in order” to, e.g., “keep the newspaper-up-to-date.” Ex-1013, 2:29-33.

171. A POSITA would have understood that the information accessed in Wise, would have been retrieved at “periodic intervals” or would have been motivated to add that functionality to Wise, as disclosed by Dasan, in order to ensure that the most up-to-date and complete information is presented to the user. *See* Ex-1006, 3:56-4:5. A POSITA would have had a reasonable expectation of success in doing so because it is implemented by computer-executed instructions, which involve no more than ordinary skill to apply.

- b. 1[Pre(ii)]/6[Pre(ii)]/11[Pre(ii)] through 1(b)(i)/6(b)(i)/11(b)(i)/19(b)(i), 1(c)/6(c)/11(c)/19(c) through 1(c)(i)/6(c)(i)/11(c)(i)/19(c)(i), and 1(e)/11(e)/6(d)(i)/19(d)(i) through 1(f)/6(d)(ii)/11(f)/19(d)(ii)]**

172. In the Wise/Dasan combination, Wise’s system discloses these limitations for the same reasons discussed in the respective Sections XI.A.2.b.-XI.A.2.h. and XI.A.2.j.-XI.A.2.m., and XI.A.2.o.-XI.A.2.p. above.

- c. 1(b)(ii)/6(b)(ii)/11(b)(ii)/19(b)(ii): the at least one [appropriate] information-source-retrieval instruction stored in a database...;**

173. Wise discloses these limitations for the same reasons discussed in Section XI.A.2.i.

174. Dasan further stores the information-source-retrieval instruction to retrieve information from a “particular one of the information sources that has the desired information.” Dasan’s “personal news profiles” are stored “by topic” by the newspaper generator and identify the topic and “files specifications for the sources (wherein ‘.*’ indicates searching in all raw sources).” Ex-1013, 6:61-62, 7:12-21. For example, Dasan’s news profile includes:

```
Sun News~.*~Sun Microsystems|SMCC|SunSoft~insensitive
Microsoft~.*~Microsoft~insensitive
Internet~usa.headlines|usa.national|opinions~editorials|
businesswire|prnewswire|business.finance|
international.france|international.germany|international.japan
international.other~Internet|Information
SuperHighway|Mosaic|WWW~insensitive
Colorado~usa.headlines|usa.national|opinions|editorials|
businesswire|pr-newswire|business.finance|international.france
international.germany|international.japan|international.other~
Colorado|Denver|Boulder~insensitive
```

Ex-1013, 7:1-12. A POSITA would have understood to implement Dasan’s stored file source instruction, into Wise’s file server memory to easily retrieve the information from a particular source.

d. 1(c)[(ii)]/6(c)[(ii)]/11(c)[(ii)]/19(c)[(ii)]: utilizes a content extractor...,

175. To the extent that Wise does not explicitly disclose separating “only a portion of the webpage containing information of interest to the particular user,” as

explained in Section XI.A.2.1., it was well-known in the art, as disclosed by Dasan. Dasan discloses that a user “profile is created and stored in local files... which may be accessed” and recalled by the server “during editing operations” or “creation of the newspaper.” Ex-1013, 6:1-6; 7:57-60 (“the newspaper is generated based upon the profile”). When creating the newspaper, Dasan performs a “full-text searching process” for “corresponding search terms(s) specified in each of the topics contained in the profile” on the “raw news sources” (i.e., webpages) that “come in as large text files.” Ex-1013, 7:61-65, 8:4-7. Dasan locates “certain search terms having the specified context(s) in the file,” parses “the portion of the file containing the located article,” and converts it “into an individual ASCII file which is resident on the server.” Ex-1013, 8:7-11. In “a second parsing process,” the article title “is used to create an anchor in the HTML page... of the personal newspaper, which references the article by its file specification.” Ex-1013, 8:15-19. The article text “can then be referenced at the server, and displayed as a second HTML page” when selected by the user. Ex-1013, 8:19-21.

176. A POSITA would have been motivated to implement Dasan’s content extractor functionalities into Wise’s content extractor to ensure that only the desired information is extracted from the webpage, thereby improving the efficiency of the search process by “automatically sort[ing] through the large variety of electronic sources in order to generate a subset of stories available in

electronic form... tailored to a user's specific interests." Ex-1013, 1:62-65. A POSITA would have had a reasonable expectation of success in doing so because it is implemented by computer-executed instructions, which involve no more than ordinary skill to apply.

e. 1(c)[(iii)]/6(c)[(iii)]/11(c)[(iii)]/19(c)[(iii)]: wherein the content extractor uses a content-descriptor file...[;][,]

177. Wise discloses these limitations for the same reasons discussed in Section XI.A.2.m. Alternatively, Dasan generates a newspaper upon a user's profile of topics. Ex-1013, 7:57-60 As discussed in Section XI.B.2.d., the profile is used to identify the specified context in the file and parse the portion needed. Ex-1013, 8:7-11.

178. A POSITA would have understood that Dasan's parser uses the user's profile (content descriptor file) containing a description and indication of the portion of information within the information source. A POSITA would have been motivated to implement Dasan's content descriptor files into Wise's Parser for the same reasons as explained above in Section XI.B.2.d.

f. 1(d)/6(c)[(iv)]/11(d)/19(c)[(iv)]: [and] selecting[,] by the web-browsing server[,] the [desired] information [of interest]...[;][and]

179. To the extent that "retrieving only the portion of the information desired" is not explicitly disclosed in Wise as discussed in Section XI.A.2.n., it was well-known in the art, as disclosed by Dasan, for at least the reasons discussed

in the previous section. Ex-1013, 8:4-21. Moreover, a POSITA would have understood that the user's request for the desired information from the information source is used to select and retrieve that information based on the information-source retrieval instruction.

180. Dasan provides an example of information-source retrieval instructions used to select and retrieve only the portion of the desired information requested by the user. Dasan discloses that "personal news profiles" are stored by the newspaper generator "by topic." Ex-1013, 6:61-62. And, "[e]ach topic contains a number of sources (e.g. publications or newsfeeds) to search and corresponding search term(s)," which "may be delimited by disjunctions (the '|' character)" like full-text retrieval systems. Ex-1013, 6:62-66.

181. An exemplary news profile is:

```
Sun News~.*~Sun Microsystems|SMCC|SunSoft~insensitive
Microsoft~.*~Microsoft~insensitive
Internet~usa.headlines|usa.national|opinions~editorials|
businesswire|prnewswire|business.finance|
international.france|international.germany|international.japan
international.other~Internet|Information
SuperHighway|Mosaic|WWW~insensitive
Colorado~usa.headlines|usa.national|opinions~editorials|
businesswire|pr-newswire|business.finance|international.france
international.germany|international.japan|international.other~
Colorado|Denver|Boulder~insensitive
```

Ex-1013, 7:1-12. Dasan explains that "[e]ach of the lists of strings for topics, sources and keywords are delimited in the file by the '~' character"; and "[t]he initial string (e.g. 'Sun News') identifies the topic, the second set of strings (e.g.

‘.*’) identifies the files specifications for the sources (wherein ‘.*’ indicates searching in all raw sources), [and] the next set of strings are the search terms.”

Ex-1013, 7:12-21.

182. A POSITA would have been motivated to implement Dasan’s selecting and retrieving only the desired portion of the information according to the information-source-retrieval instruction into Wise’s system to improve the search process’s efficiency by “tailoring [the] specific stories of interest to particular users” automatically. Ex-1013, 1:59-65. A POSITA would have had a reasonable expectation of success in doing so because it is implemented by computer-executed instructions, which involve no more than ordinary skill to apply.

g. 11(g)/19(e): [providing] a graphical display...

183. To the extent that Wise does not explicitly disclose a graphical display as discussed in Section XI.A.2.q., it was well-known in the art, as disclosed by Dasan. Dasan’s “server presents the subset of the information from the database” “generated by the first application program to the client.” Ex-1013, 2:17-19. Specifically, Dasan’s “[s]ystem 300 may further be coupled to a display device 321, such as a cathode ray tube (CRT) or liquid crystal display (LCD) coupled to bus 301 for displaying information to a computer user.” Ex-1013, 5:8-11, Fig. 3.

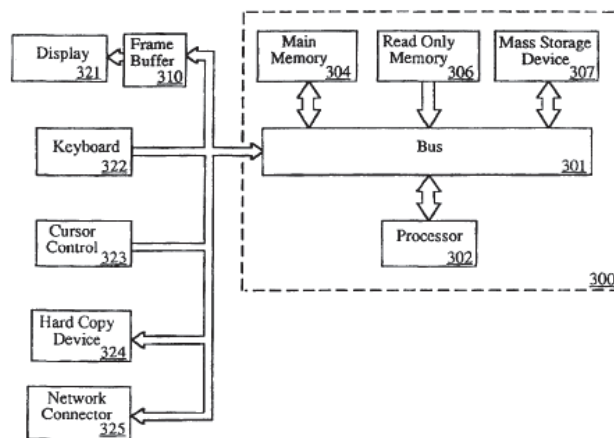


Fig. 3

184. Additionally, Dasan discloses with Figure 11, “the results of the creation of a personal newspaper,” i.e., the “main screen” that “is displayed at the client as a result of the full-text searching, the parsing and HTML page generation process performed at the server.” Ex-1013, 8:22-26.

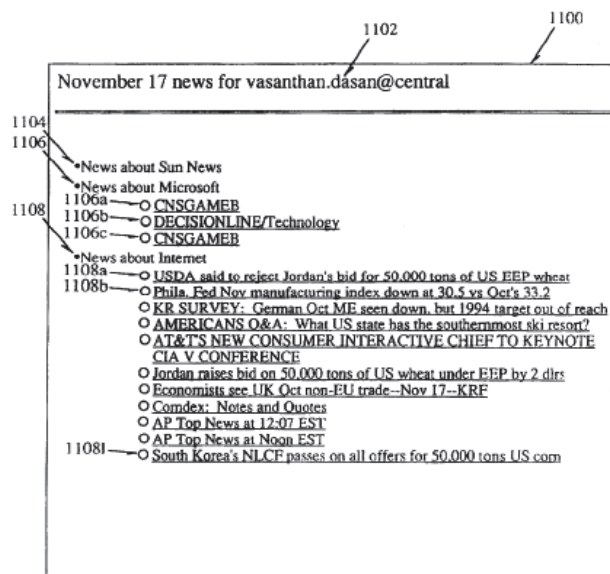


Fig. 11

As shown above, “the profile name is displayed as 1102,” each of the profile topics are “listed in a first level heading, such as 1104, 1106, 1108... followed by second level headings, such as 1106a-1106c, 1108a-1108l” listing the story names, “if any, which match the search terms and sources.” Ex-1013, 8:26-32. Upon the user’s story selection, “the text for the story may be referenced and viewed.” Ex-1013, 8:33-35; *see also id.*, 8:35-37, Fig. 12 (depicting an exemplary “display of an article from the personal newspaper”).

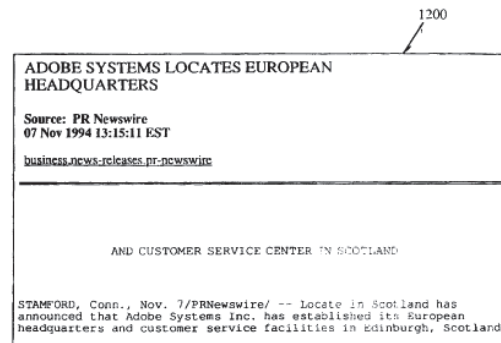


Fig. 12

A reference can “also be inserted in the HTML page containing the article... to allow the user to return to the personal newspaper main screen.” Ex-1013, 8:22-39.

185. A POSITA would have been motivated to implement Dasan’s graphical user interface into Wise’s system to allow user interaction during the search process and enhance the user’s experience. A POSITA would have had a reasonable expectation of success incorporating this functionality into Wise’s

presentation manager which already “determine[s] the user’s equipment and format[s] the presentation of information from the network appropriately” (Ex-1007, 8:48-50), since it is software programming implemented on a computer.

3. Dependent Claims 2-5, 7-10, 12-18, and 20-26

a. 2: The method of claim 1, further comprising: searching, by the media server, an associated website to locate requested information.

186. Wise discloses Claim 2 for the same reasons discussed in Sections XI.A.2.f and XI.A.3.a.

187. Dasan discloses “[a]n automatic method and system for retrieving information based on a user-defined profile (e.g. a personalized newspaper).” Ex-1013, 2:3-5. Specifically, Dasan’s “user-controlled client” “establishes communication with a stateless server” which “present[s] a list of options to the client (e.g. via Hypertext Transfer Protocol (HTTP) exchanges) between the server and the client” and “[t]he client provides an identification of the user-defined profile.” Ex-1013, 2:5-9. A first application program is engaged by the server via, e.g., a Common Gateway Interface (CGI), to retrieve “the user-defined profile,” which “identifies information... of interest to the user.” Ex-1013, 2:10-14. The first application program then “examines a database of information and automatically retrieves a subset of the information from the database based upon which information is of interest to the user as specified in the user-defined profile.”

Ex-1013, 2:14-18. The subset of information from the database, generated by the first application program, is presented by the server to the client. Ex-1013, 2:18-19.

188. A POSITA would have been motivated to implement Dasan's first application program (media server) functionality of searching and retrieving "a subset of the information" (i.e., associated website) to locate requested information into Wise's media server to retrieve the information of interest to the user. Ex-1013, 2:1-4, 2:29-33.

189. A POSITA would have had a reasonable expectation of success incorporating this functionality into Wise's system since it is software programming implemented on a computer. *See* Ex-1013, 3:47-54 ("[I]t can be appreciated by one skilled in the art that they may be implemented in a variety of hardware devices, either programmed or dedicated.").

b. Claims 3, 4, 8, 9, 13-17, and 21-25

190. In the Wise/Dasan combination, Wise's system discloses these claims and limitations for the same reasons discussed in the respective Sections XI.A.3.b.-XI.A.3.d. and XI.A.3.h.-XI.A.3.j. above.

**c. 5: The method of claim 1, further comprising:
clipping engine...**

**10[A]/18[A]: The method of claim [6/11], further
comprising: clipping engine...**

191. Wise discloses these limitations for the same reasons discussed in

Section XI.A.3.e.

192. Wise does not explicitly disclose a “clipping engine adapted to generate the content-descriptor file” but it was well-known in the art, as disclosed by Dasan. Dasan discloses that “the client may direct the filling out of certain ‘forms’ from” his/her browser so as “to control the parameters of” execution of Dasan’s “server-resident process.” Ex-1013, 4:42-44. This may also be accomplished “by the ‘fill-in forms’ functionality 230” allowing the user “to specify a ‘profile’ in which the server will cause an application program to function (e.g. the types of stories/articles which are of interest to the user)” through client application program 100. Ex-1013, 4:44-49.

193. Dasan’s Figure 7 illustrates the process “performed by the profile generator portion of the newspaper generator” and Figure 8 illustrates “the user interface which controls the adding of topics to the profile.” Ex-1013, 7:22-26.

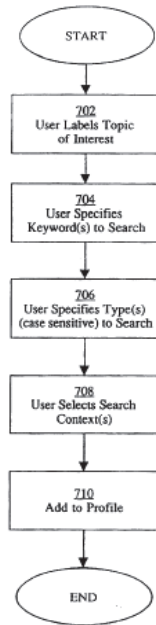


Fig. 7
Add to Profile
700

To create or browse an existing profile enter your email address

Add to your News Profile

Name the topic of interest: 802

Keywords to look for: 804

One or more keywords can be separated by "|".

☐ 806 case insensitive search ☒ 808 case sensitive search

Search in the following categories: (CTRL - select to select multiple categories)

- 810a ☒ Headline News
- 810b ☒ US News (Associated Press)
- 810c ☒ Opinions and Editorials
- 810d ☒ Businesswire
- ☒ PR Newswire
- ☒ Stock Markets
- ☒ Commodity Markets
- ☒ Money Markets
- ☒ Metal Markets
- ☒ Standard & Poor
- ☒ Business and Finance News
- ☒ Agence France Presse
- ☒ Deutsche Presse-Agentur
- ☒ Koydo News Agency

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Fig. 8

The user starts by labeling the topic of interest, e.g., “by filling in the field 802 provided by the fill-in forms feature of HTML or CGI” and then “specifies” search terms, case sensitivity, and the “search context(s)” to be used in the full-text search. Ex-1013, 7:26-30, 7:32-38. The data entered into screen 800 “is added to the user profile for generation of the newspaper” by selection of “icon 812 or other commit means.” Ex-1013, 7:38-41.

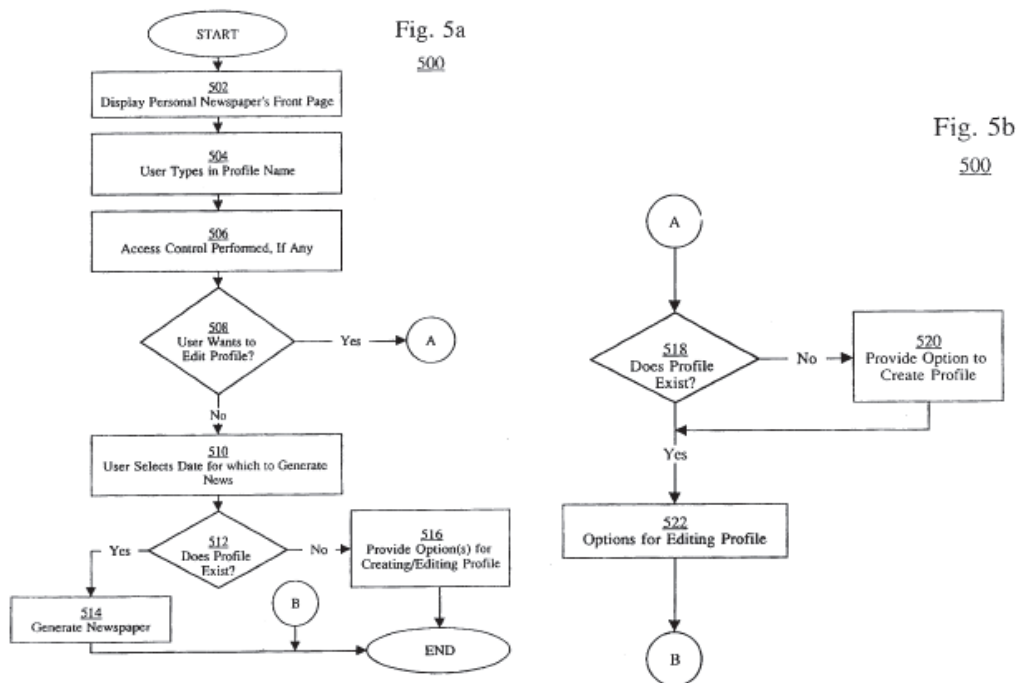
194. A POSITA would have been motivated to implement the form-filling (clipping engine) features of Dasan’s newspaper generator into Wise’s system to enhance the accuracy and efficiency of retrieving the user-requested information by “retrieving data from a server based upon a defined and stored user profile of desired information.” Ex-1013, 8:41-43. This is particularly so, given the need, noted by Dasan, “to automatically sort through the large variety of electronic

sources in order to generate a subset of the stories available in electronic form which is tailored to a user's specific interests is desired." Ex-1013, 1:62-65. A POSITA would have had a reasonable expectation of success in doing so, for the reasons discussed in Section XI.B.3.a.

d. 10[B]/18[B]: by which, [an/the] instruction [is used by the web-browsing server to] request[s] information...

195. Dasan discloses these limitations for the same reasons discussed in the previous section.

196. Moreover, Dasan's Figures 5a/5b depict "the logic of the operation of the personal newspaper generator." Ex-1013, 6:20-21.



Dasan's "user console" displays "the newspaper's front page, or welcome screen" "when the use[r] first accesses the server via the specification of a URL" and a fillable form such as that depicted in Figure 6. Ex-1013, 6:21-26.

Figure 6 is a screenshot of a web form. The form has a title bar that says "To create or browse an existing profile enter your email address". Below the title bar, there is a text input field labeled "Your Sun Email address:" with the text "Vasanthan.Dasan@Central" entered. To the left of the input field is a label "602". Below the input field, there are two buttons: "Lookup News Profile" (labeled 604) and "Generate News" (labeled 606). To the right of the "Generate News" button, there is a date selector showing "November 07" (labeled 608) and a "doit" button (labeled 610). The entire form is labeled 600. At the bottom of the form, the name "Vasanthan S. Dasan" is displayed.

Fig. 6

"Options and other data entered on" the displayed form are then "committed," which "caus[es] invocation of the newspaper generation program" when the user selects the "'doit' icon 610 on display 600." Ex-1013, 6:26-30. Next, the user may "enter, via the forms support in the browser, a profile or user name in field 602," which "is enabled" by "a selection device or other means, and filling in the selected blank with the profile name (typically, an e-mail address of the user)." Ex-1013, 6:30-34. "[A]ccess control" can also be performed at step 506, "wherein the user is queried for a password." Ex-1013, 6:34-37.

197. A POSITA would have been motivated to combine Wise and Dasan and had a reasonable expectation of success in doing so, for the reasons discussed

above in Sections XI.B.3.a., c.

e. 7/12/20: The [system/method] [of] claim [6/11/19], further comprising: an interface...

198. Wise discloses Claims 7/12/20 for the same reasons discussed in Section XI.A.3.g.

199. To the extent that Wise does not explicitly disclose an “interface,” it was well-known in the art, as disclosed by Dasan. Specifically, Dasan discloses a “server having an execution control interface for causing said first application program to examine a database of information and automatically retrieve a subset of said information based upon which information is of interest to said user as identified in said user-defined profile.” Ex-1013, Claim 17. Specifically, Dasan’s client/server architecture sends the user’s requests from a client application program over the Internet to a server that scans and searches raw information sources. Ex-1013, 3:30-39; *see also* 3:55-64.

200. A POSITA would have been motivated to combine Wise and Dasan and had a reasonable expectation of success in doing so, for the reasons discussed in Section XI.B.3.a.

C. Ground 3: Claim 26 Would Have Been Obvious over Wise and Dasan in View of Uppaluru

1. A POSITA would have been motivated to combine the teachings of Wise and Woods and would have had a reasonable expectation of success in doing so.

201. As the reference summaries above and detailed claim analyses below

demonstrate, the Wise-Dasan combination discloses all of the limitations of the independent claims. As set forth in detail below in Section XI.C.2.a., a POSITA would have been motivated to combine the relevant teachings of Wise and Dasan with Uppaluru, and would have a reasonable expectation of success in doing so, because Uppaluru relates to “interactive voice and speech processing systems” like Wise, and provides user-specific “profiles” that are accessed by its system, like Dasan. Ex-1007, Abstract; Ex-1013, Abstract; Ex-1014, 1:7-19.

2. Dependent Claim 26

a. 26: The system of claim 19, further comprising: a database wherein a personal-recognition grammar is stored...

202. Wise discloses Claim 26 for the same reasons discussed in Section XI.A.3.k.

203. To the extent that the Wise-Dasan combination does not explicitly disclose “personal-recognition grammar,” it was well-known, as disclosed by Uppaluru. Specifically, Uppaluru’s “voice web system” utilizes “speech training profiles to dynamically change the active vocabulary in the voice processing software and hardware thereby customizing it to the subscriber.” Ex-1014, 14:51-54. Personal speech training pages 401-427 “are organized as a linked collection of voice web profile pages each linked to the corresponding personal voice web service page” and contain the context-dependent “training vocabulary for browser

command and control,” “a set of command and control key words,” and “personalized speech recognition patterns representing the context sensitive vocabulary for the corresponding service page.” Ex-1014, 17:28-35, 17:46-49.

204. Uppaluru’s voice web browser, “responding to the subscriber’s voice commands pertinent to the accessed voice web service page,” thus “recognizes the command and control word utterances,” i.e., the subscriber’s voice commands 720, “and matches them against the personalized vocabulary in the corresponding voice web speech training page for accurate speaker dependent recognition of discrete speech.” Ex-1014, 18:23-29. For example, “if the subscriber is accessing the weather service page, the agent fills in the subscriber’s home town.” Ex-1014, 19:12-19.

205. A POSITA would have been motivated to combine Uppaluru’s speaker-dependent grammar into the Wise-Dasan system to “enable[] the user to call into any compatible Internet connected voice web system in” his/her “proximity from anywhere in the world, identify himself/herself to the system and then enable the system to dynamically retrieve suitable information that enhances his/her navigation and access of the information stored in the voice web using voice commands and input.” Ex-1014, 3:41-58. A POSITA would have had a reasonable expectation of success in doing so because it is implemented by computer-executed instructions involving no more than ordinary skill to apply.

206. As I explained above in Section VII.C., storing a personal recognition grammar relating to web information in a database, was well known. As shown in Brown in 1999 web information, such as HTML, section titles, hyperlinks, and other indicators are combined with voice commands and stored in an optimized finite-state network in order to contain the “possible sequences of words that can be recognized.” Ex-1015, 5:60-6:18.

XII. SECONDARY CONSIDERATIONS

207. I have considered and evaluated the impact of all secondary indicia of non-obviousness of which I am aware. I am not aware of any such considerations raised by the Patent Owner. Should Patent Owner raise any such issues, I reserve the right to respond. With respect to the claims at issue and the prior art discussed herein, no secondary considerations have tipped my opinion one way or another in terms of the obviousness of these claims in light of the art discussed.

XIII. CONCLUSION

208. All of the challenged claims are obvious over the prior art.

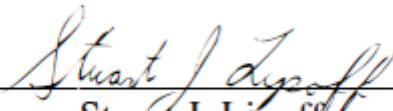
209. In signing this declaration, I understand that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I acknowledge that I may be subject to cross-examination in this case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for

cross-examination within the United States during the time allotted for cross-examination.

210. I declare that all statements made herein of my knowledge are true, that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

211. I declare under penalty of perjury that the foregoing is true and correct.

DATED: April 1, 2022



Stuart J. Lipoff