

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,

PETITIONER,

v.

SONGBIRD TECH, LLC,

PATENT OWNER.

Case No. IPR2024-01096

U.S. Patent No. 8,825,787

DECLARATION OF HENRY HOUH, Ph.D.

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I. INTRODUCTION

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

2. I am over 21 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.

3. I understand that this proceeding involves U.S. Patent No. 8,825,787 (“the ’787 patent,” Ex. 1001).

4. I have been asked by Petitioner to provide my opinion on whether the claims of the ’787 patent would have been anticipated and/or obvious to a person of ordinary skill in the art at the time of the earliest possible priority date of the ’787 patent. In performing my analysis, I have been asked to assume that the priority date of the ’787 patent is March 8, 2002. My opinions are set forth below.

5. Throughout this declaration, I refer to specific pages, figures, and/or line numbers of various exhibits. These citations are illustrative and are not intended to suggest that they are the only support for the propositions for which they are cited.

II. SUMMARY OF OPINIONS

6. This declaration considers claims 1-10 of the ’787 patent. Below, I set forth the opinions I have formed, the conclusions I have reached, and the bases for

these opinions and conclusions. I believe the statements contained in this declaration to be true and correct to the best of my knowledge.

7. Based on my experience and knowledge of the art at the time of the applicable priority date, it is my opinion that claims 1-10 of the '787 patent would have been anticipated and/or obvious based on the asserted grounds discussed below.

8. I am being compensated for my time at my normal hourly rate. My compensation is in no way contingent upon the nature of my findings, the presentation of my findings in testimony, or the outcome of this proceeding.

III. QUALIFICATIONS AND BACKGROUND

9. I believe that I am well qualified to serve as a technical expert in this matter based upon my qualifications, discussed in detail below.

10. I am competent to write this declaration.

11. I am an independent consultant. 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 and/or deploying distributed web client/server systems, Java-based systems, graphical user interfaces, website platforms, e-commerce systems, and audio processing systems, and on the documents and information referenced in this declaration. I am over 18 years of age and, if I am called upon to do so, I am competent to testify as to the matters set forth herein.

12. In formulating my opinions, I have relied upon my training, knowledge, and experience in the relevant art. Provided as Exhibit 1004 is a copy of my current curriculum vitae, which details my education and experience, and a list of all other cases in which, during the previous four years, I testified as an expert at trial or by deposition. The following provides a brief overview of some of my experience that is relevant to the matters set forth in this declaration.

13. I received a Ph.D. in Electrical Engineering and Computer Science from the Massachusetts Institute of Technology (“MIT”) in 1998. Beforehand, I received a Master of Science degree in Electrical Engineering and Computer Science in 1991, a Bachelor of Science degree in Electrical Engineering and Computer Science in 1989, and a Bachelor of Science degree in Physics in 1990, all from MIT.

14. I am currently self-employed as an independent technical consultant. From its founding in 2012 until October 2022, I was also president of a company that provides supplemental science, technology, engineering, and mathematics (“STEM”) education to children of all ages.

15. I first entered telecommunications in 1987 when I worked as a summer intern at AT&T Bell Laboratories as part of a five-year dual degree program at MIT. I continued to work at AT&T Bell Laboratories as part of this MIT program. While at MIT, I was a teaching assistant (“TA”) in the Electrical Engineering and Computer Science Department’s core Computer Architectures course. I first was a TA as a

senior for a role typically reserved for graduate students. I later became head TA. The course covered various topics in computer architectures. As a TA, I helped write homework assignments, lab assignments, and exams. I also taught in the recitation sections.

16. Later, as part of my doctoral research at MIT from 1991-1998, I was a research assistant in the Telemedia Network Systems (“TNS”) group at the Laboratory for Computer Science. The TNS group built a high-speed gigabit network and created applications that ran over the network. Example applications included ones for remote video capture, processing, and display of video on computer terminals. In addition to working on the design of core network components (which was based on FPGAs), designing and building the high-speed links (which included programmable logic devices), and designing and writing the device drivers for the interface cards (which included programmable logic devices), I also set up the group’s web server. Also, I helped to maintain, install, and upgrade the networking devices used within the group, along with other graduate students. When I started with the TNS group, the networking infrastructure consisted of shared coaxial cable-based Ethernet, with bridges and repeaters interconnecting various network segments. I became familiar with the Ethernet specifications in order that we not configure our network improperly, typically by chaining too many repeaters together. We gradually replaced the coaxial Ethernet infrastructure with

twisted pair 10BASE-T wiring that were interconnect via hub repeaters, for which we also had to mind the Ethernet specifications. Eventually, many of the hub repeaters were upgrade to switches. I also studied the various parts of the Ethernet specifications both independently and through graduate coursework in networking.

17. I also helped to build the web pages that initiated the above-mentioned video sessions via a web interface. Vice President Al Gore visited our group in 1996 and received a demonstration of—and remotely drove—a radio-controlled toy car with a wireless video camera mounted on it that was built by our group. This toy car device received commands transmitted over a network from a remote computer, and video data from the toy car was transmitted wirelessly then over a computer network back to the user controller. On occasion, we allowed users visiting our website to drive the toy car from their remote computer while they watched the video on their computer. The video stream was encoded by TNS-designed hardware, streamed over the TNS-designed network, and displayed using TNS-designed software.

18. I defended and submitted my Ph.D. thesis, titled “Designing Networks for Tomorrow’s Traffic,” in January 1998. As part of my thesis research, I analyzed local area and wide area flows to show a more efficient method for routing packets in a network, based on traffic patterns at the time. The traffic flow data included Ethernet, IP, TCP or UDP, and RTP header information, which I analyzed to come to the conclusions in my thesis.

19. While I was in graduate school, I started a company that provided website design services and targeted advertising opportunities. We also sold targeted advertising placements. As the web became popular first at colleges and universities, we focused initially on building college recruiting websites and sold advertisements to companies wishing to target students to recruit at specific colleges. We developed technology that utilized the web user's college affiliation to customize advertisements targeted to students at that college.

20. From 1997 to 1999, I was a Senior Scientist and Engineer at NBX Corporation, a start-up that made business telephone systems for streaming packetized audio over data networks instead of using traditional telephone lines. NBX was later acquired by 3Com Corporation and the phone system is still used today by numerous businesses.

21. As part of my work at NBX, I designed the core audio reconstruction algorithms for the telephones, as well as the packet transmission algorithms. I also designed and validated the core packet transport protocol used by the phone system. The protocol was used for all signaling in the phone system, including for the setup of conference calls. The NBX system also featured a computer interface for initiating phone calls, which could also initiate conference calls. The NBX system also supported the Telephony Application Programming Interface ("TAPI") that allowed other computer programs to integrate with our system telephony features. We

obtained U.S. Patent No. 6,967,963, entitled “Telecommunication method for ensuring on-time delivery of packets containing time-sensitive data,” as part of this work. The first release of the phones had integrated Ethernet repeater hubs embedded in them, and I worked with the documentation and field support people to develop sets of guidelines so that customers would not build their networks to violate the Ethernet specifications, typically by chaining too many hub repeaters and NBX phones together. The first release of the phones also worked using Ethernet-layer packets (without the use of IP). I also programmed the first prototype of our phone which communicated using IP, and I demonstrated our IP phones working over the Internet when we attended a trade show in California. The phone connected over the Internet to our headquarters in Andover, MA.

22. From 1999-2004, I was employed by Empirix or its predecessor company, Teradyne. Teradyne had traditionally made products to test chips and hardware, but the founder and board chairman, Alex d’Arbeloff, wanted to expand the company’s products to include software systems testing. Teradyne made a number of acquisitions to achieve this goal, and I was hired to work for Mr. d’Arbeloff to work with all the acquired software test divisions. These divisions were later spun-out of Teradyne into a separate company, Empirix. Empirix was a leader in test tools for software systems, including telecommunications protocols and systems, providing functional testing tools as well as load testing tools. From

2000-2001, I conceived and built a test platform for testing Voice-over-IP (VoIP). The first application on this new test platform was a cloud emulator for simulating the effects of transmitting VoIP over a busy network. The test platform was based on a network processor chip, which could be programmed to cut-through packets while processing packet data such as various protocol layer headers including addresses included therein and even packet data contents. I also designed a protocol analyzer built on the same platform. The application captured and performed protocol decoding at various layers in the protocol stacks of captured packets, including detailed Ethernet header decoding, IP header decoding, TCP header decoding, UDP header decoding, RTP header decoding, and many other specified protocols. The application was also designed to reconstruct entire conversations that spanned multiple packets.

23. In 2006, as part of my role at BBN Technologies, I helped found PodZinger Inc., now known as RAMP Inc. PodZinger utilized BBN's speech recognition algorithms to search through the spoken words in audio and video segments. While I was Vice President of Operations and Technology, PodZinger followed its initial prototype with a full streaming audio and video search solution. I also created a social networking website which BBN sold to a venture-funded startup company. In the process of creating the website, I designed and specified the authentication and authorization protocols.

IV. MATERIALS CONSIDERED

24. In forming my opinions, I have reviewed and considered the following documents and any other document cited in this declaration.

Exhibit	Description
Ex. 1001	U.S. Patent No. 8,825,787 to Hazy (“the ’787 patent”)
Ex. 1002	File History of the ’787 Patent
Ex. 1005	U.S. Patent No. 6,687,877 to Sastry et al. (“Sastry”)
Ex. 1006	U.S. Patent Application Publication No. 2001/0056351 to Valentine et al. (“Valentine”)
Ex. 1007	U.S. Patent Application Publication No. 2002/0065759 to Boies et al. (“Boies”)
Ex. 1008	Excerpts from Greg Barish, <i>Building Scalable and High-Performance Java Web Applications Using J2EE™ Technology</i> (2002) (“Barish”)
Ex. 1009	Excerpts from Andrew S. Tanenbaum, <i>Computer Networks</i> (3d ed. 1996) (“Tanenbaum”)
Ex. 1010	<i>Application, Newton’s Telecom Dictionary</i> (8th ed. 1994)
Ex. 1011	<i>Application, Microsoft Press Computer Dictionary</i> (3d ed. 1997)
Ex. 1012	<i>Application, The Authoritative Dictionary of IEEE Standards Terms</i> (7th ed. 2000)
Ex. 1014	Series H, ITU-T H.323 Recommendation, <i>Packet-based multimedia communications systems</i> (1998)

25. I have also relied on my education, experience, research, training, and knowledge in the relevant art, and my understanding of any applicable legal principles described in this declaration.

26. All the opinions contained in this declaration are based on the documents I reviewed and my knowledge and professional judgment. My opinions have also been guided by my understanding of how a person of ordinary skill in the art would have understood the claims of the '787 patent at the time of the invention.

27. I reserve the right to supplement and amend any of my opinions in this declaration based on documents, testimony, and other information that becomes available to me after the date of this declaration.

V. LEGAL STANDARDS

28. I am not a lawyer. My understanding of the legal standards to apply in reaching the conclusions in this declaration is based on discussions with counsel for Petitioner, my experience applying similar standards in other patent-related matters, and my reading of the documents submitted in this proceeding. In preparing this declaration, I have tried to faithfully apply these legal standards to the challenged claims.

29. I have been informed that there are two ways in which prior art may render a patent claim unpatentable. First, I have been informed that the prior art can “anticipate” a claim. Second, I have been informed that the prior art can render a claim “obvious” to a person of ordinary skill in the art. I understand that a claim is patentable if it was not anticipated and would not have been obvious in view of the prior art as of the effective filing date of the patent.

30. I have been informed that a dependent claim is a patent claim that refers back to another patent claim. I have been informed that a dependent claim includes all the limitations of the claim to which it refers.

31. I have been asked to provide my opinions as to whether the cited prior art discloses or renders obvious claims 1-10 of the '787 patent from the perspective of a person of ordinary skill in the art at the '787 patent's earliest possible priority date in 2002, as described in more detail below.

32. I have been informed that in *inter partes* review proceedings, such as this one, the party challenging the patent bears the burden of proving unpatentability by a preponderance of the evidence. I understand that a preponderance of the evidence means "more likely than not."

33. For the purposes of this declaration, I have been asked to provide my opinions on issues regarding unpatentability. I have been informed of the following legal standards, which I have applied in forming my opinions.

A. Level of Ordinary Skill

34. I have been informed that a person of ordinary skill in the art is determined by considering several factors, including the (i) type of problems encountered in the art; (ii) prior art solutions to those problems; (iii) rapidity with which innovations are made; (iv) sophistication of the technology; and (v) educational level of active workers in the field.

35. I have been instructed to assume that a person of ordinary skill in the art is not a specific, real individual but rather a hypothetical individual having the qualities reflected by the factors discussed above.

B. Prior Art

36. I have been advised and understand that the information used to evaluate whether an invention was new and not obvious when made is generally referred to as “prior art.” I understand that prior art includes patents and printed publications that existed before the earliest priority date or the earliest filing date of the patent (which I have been informed is also called the “effective filing date”). I have been informed and understand that a patent or published patent application is prior art if it was filed before the effective filing date of the claimed invention and that a printed publication is prior art if it was publicly available before the effective filing date of the claimed invention.

C. Anticipation

37. I have been informed that, under 35 U.S.C. § 102, a patent claim is unpatentable for anticipation if the claimed subject matter was patented or described in a printed publication before the effective filing date of the claimed invention. I have been informed that this is referred to as unpatentability by anticipation. I have been informed that a patent claim is anticipated under § 102 if a single prior art reference discloses all limitations of the claim.

D. Obviousness

38. I have been informed that for obviousness under 35 U.S.C. § 103, a patent claim is unpatentable if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious to a person having ordinary skill in the art to which said subject matter pertains at the time the invention was made. I have been informed that this is referred to as unpatentability by obviousness.

39. I have been informed that an obviousness analysis includes the following considerations:

- a. Determining the scope and content of the prior art;
- b. Ascertaining the differences between the prior art and the claims at issue;
- c. Resolving the level of ordinary skill in the pertinent art; and
- d. Considering evidence of secondary indicia of nonobviousness (if available).

40. I have been informed that the relevant time for considering whether a claim would have been obvious to a person of ordinary skill in the art is the time of invention. For my obviousness analysis, counsel for Petitioner instructed me to assume that the date of invention for the challenged claims is March 8, 2002. My opinions would not change if I assumed a later date of invention.

41. I have been informed that a reference may be modified or combined with other references or with a person of ordinary skill in the art's own knowledge if the person would have found the modification or combination obvious. I have also been informed that a person of ordinary skill in the art is presumed to know all the relevant prior art, and the obviousness analysis may take into account the inferences and creative steps that a person of ordinary skill in the art would employ.

42. I have been informed that whether a prior art reference renders a patent claim obvious is determined from the perspective of a person of ordinary skill in the art. I have also been informed that there is no requirement that the prior art contain an express suggestion to combine known elements to achieve the claimed invention. I have also been informed that a suggestion to combine known elements to achieve the claimed invention may come from the prior art as a whole or individually and may consider the inferences and creative steps a person of ordinary skill in the art would employ, as filtered through the knowledge of one skilled in the art. However, I have also been informed that, while taking these previous statements into account, obviousness grounds cannot be sustained by mere conclusory statements and must include some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.

43. In determining whether a prior art reference could have been combined with another prior art reference or other information known to a person having

ordinary skill in the art, I have been informed that the following principles may be considered:

- a. A combination of familiar elements according to known methods would have been obvious if it yielded predictable results;
- b. The substitution of one known element for another would have been obvious if it yielded predictable results;
- c. The use of a known technique to improve similar devices, systems, or methods in the same way would have been obvious if it yielded predictable results;
- d. The application of a known technique to a device, system, or method that is ready for improvement would have been obvious if it yielded predictable results;
- e. Any need or problem known in the field and/or addressed by a prior art reference can provide a reason for combining the elements in the manner claimed;
- f. A person of ordinary skill often will be able to fit the teachings of multiple references together like a puzzle; and
- g. The proper analysis of obviousness requires a determination of whether a person of ordinary skill in the art would have a “reasonable expectation of success”—but not “absolute predictability” of

success—in achieving the claimed invention by combining prior art references.

44. I have been informed that, when a work is available in one field, design alternatives and other market forces can prompt variations of it, either in the same field or in another. I have been informed that if a person of ordinary skill in the art could have implemented a predictable variation and would have seen the benefit of doing so, that variation would have been obvious. I have been informed that, in many fields, there may be little discussion of obvious combinations, and in these fields, market demand—not scientific literature—may drive design trends. I have been informed that, when there was a design need or market pressure and there are a finite number of predictable solutions, a person of ordinary skill in the art would have had a good reason to pursue those known options.

45. I have been informed that the law permits the application of “common sense” in examining whether a claimed invention would have been obvious to a person skilled in the art. For example, I have been informed that combining familiar elements according to known methods and in a predictable way may suggest obviousness when such a combination would have yielded nothing more than predictable results. I understand, however, that a claim is not obvious merely because every claim element is disclosed in the prior art, and that a party asserting obviousness must still provide a specific motivation to combine or modify the

references as recited in the claims and explain why one skilled in the art would have reasonably expected to succeed in doing so.

46. I have been informed that there is no rigid rule that a reference or combination of references must contain a “teaching, suggestion, or motivation” to combine references. But I also understand that the “teaching, suggestion, or motivation” test can be a useful guide in establishing a rationale for combining elements of the prior art. I have been informed that this test poses the question as to whether there is an express or implied teaching, suggestion, or motivation to combine prior art elements in a way that realizes the claimed invention, and that it seeks to counter impermissible hindsight analysis.

47. I am not aware of any evidence of secondary considerations that would support a determination of nonobviousness of the claimed subject matter in the '787 patent.

48. I have been informed that, in an obviousness analysis, prior art must be analogous to the patent being considered. I have been informed that a prior art reference is considered to be analogous, or in the same field of art, if the reference is either (1) in the same field of endeavor as the challenged patent, regardless of the problems the challenged patent and the prior art address; or (2) reasonably pertinent to the particular problem being solved by the challenged patent.

VI. THE '787 PATENT

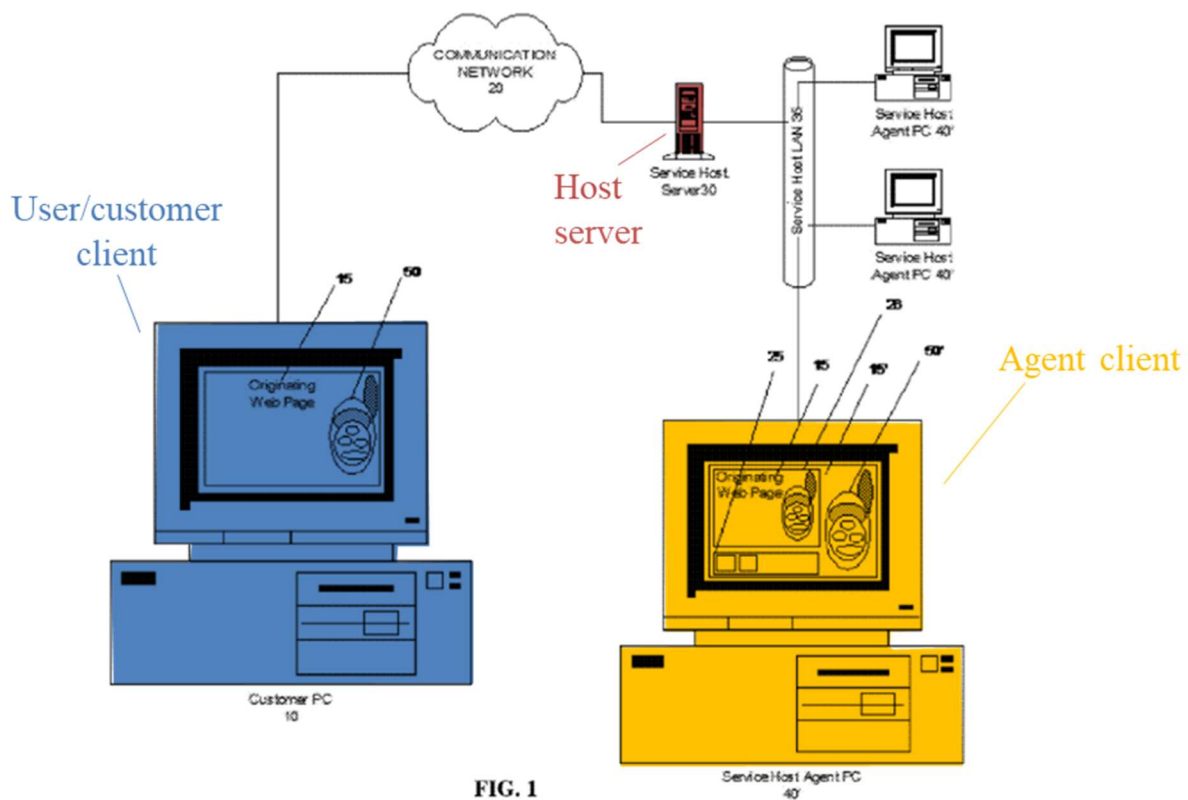
A. Overview

49. The '787 patent was filed on May 21, 2013 and is a continuation of U.S. Patent Application No. 12/958,424, filed December 2, 2010, which is a continuation of U.S. Patent Application 10/377,444, filed March 3, 2003, which claims benefit of U.S. Provisional Patent Application No. 60/363,506 filed on March 8, 2002. '787 patent, cover.

50. The '787 patent “relates to software systems, specifically systems designed to deliver customer service over the worldwide web and other networks.” '787 patent, 1:19-21. According to the '787 patent, the disclosed system provides “a voice message driven customer interaction queuing system,” *id.*, 4:54-56, that “allows web page visitors to utter questions into a browser-resident recorder application” and customer service agents to respond. *Id.*, 4:38-45; *see id.*, 1:29-37. The customer’s “questions are queued with originating web page information and user data and distributed to [the] customer service agents” who then respond to the question “with an audio message.” *Id.*, 4:40-45.

51. Figure 1 illustrates various components of the disclosed system, including a “Customer PC” (also called a “Blurt Client”), a “Service Host Agent PC” (also called a “Blurt Agent” or “Agent’s Client”) and a “Service Host Server.” *Id.*, FIG. 1, 6:38-40, 7:5-20; *see id.*, 7:22-32. “The Blurt Client resides in a standard

browser on a Personal Computer (PC),” *id.*, 8:7-8, and may appear “embedded in web pages ‘enabled’ with the Blurt technology.” *Id.*, 8:17-18. The Blurt Server “manag[es] the availability of agents and assignment of user-originated messages” as well as “audio responses from the Agent, routing[] and then delivering [the responses] to the originating User’s Blurt Client for playback on the User PC.” *Id.*, 9:15-22, FIGS. 1-2.



Id., FIG. 1 (annotated).

52. A user “visiting a blurt-enabled website” may create “an audio message” and send the message to the “Blurt Server” using the user Blurt Client. *Id.*, 7:6-10. The Blurt server then determines whether an agent is available, “selects” an

agent to “field the message,” “and distributes the message to the Agent.” *Id.*, 7:10-12. Once received, the agent may record responses to the user’s question and send the responses to the Blurt Server, which “sends the response on to the User’s Blurt Client for playback.” *Id.*, 7:15-20, FIG. 1.

B. Prosecution History

53. The Examiner issued one substantive office action that rejected the claims based on provisional double patenting, patent ineligibility under 35 U.S.C. § 101, and obviousness under § 103. Ex. 1002, 70-73. The obviousness rejection relied on U.S. Patent Application Publication No. 2001/0047270 (“Gusick”) in a single-reference obviousness ground. *Id.*, 73. The Examiner noted that, “[a]lthough Gusick discloses the invention substantially as claimed, it does not explicitly disclose locally record[ing] and stor[ing] an audio query message of said user on said user device,” as the claims recited. *Id.*, 74; *see id.*, 76. However, the Examiner asserted that “[i]t would have been obvious to one of ordinary skill in the art at the time of applicant’s invention to use[] [Gusick’s] computer (fig. 1 item 142) or PDA (fig. 1 item 146) ... to record and store audio messages in advance for a later transmittal to a customer service [agent] in order to carefully and accurately review one’s question prior to submitting to a customer service [agent].” *Id.*, 74.

54. In response to the § 103 rejection, the applicant argued that “Gusick does not disclose or teach locally recording an audio message[,] ... followed by

storing the recorded audio message and further sending the audio message via a communications network.” *Id.*, 90. The applicant further stated that “Gusick merely mention[ing] a PDA” fails to provide “evidence in the disclosure of Gusick that would teach or suggest a person skilled in the art to come up with all the claimed limitations,” including that the PDA could be used to locally record and store an audio message and transmit the message. *Id.*, 91.

55. The Examiner subsequently allowed all claims. *Id.*, 120-22. In a section of the Notice of Allowance entitled “Reasons for Allowance,” the Examiner stated that the “applicant’s reply makes evident the reason for allowance”—i.e., that the prior art did not teach locally recording and storing an audio message and generally transmitting the message, *id.*, 121, as claim 10 recited. *Id.*, 87-88.

VII. CLAIM CONSTRUCTION

56. I understand that the United States Patent and Trademark Office interprets claim terms in an *inter partes* review proceeding under the same claim construction standard that is used in a United States federal court. I understand that, under this standard, the meaning of claim terms is considered from the viewpoint of a person of ordinary skill in the art at the time of the alleged invention.

57. I have been informed that claim terms are generally given their ordinary and customary meaning as understood by one of ordinary skill in the art in light of the specification and the prosecution history pertaining to the patent. I understand,

however, that claim terms are generally not limited by the embodiments described in the specification.

58. I understand that in addition to the claims, specification, and prosecution history, other evidence may be considered to ascertain the meaning of claim terms, including textbooks, encyclopedias, articles, and dictionaries. I have been informed that this other evidence is often less significant and less reliable than the claims, specification, and prosecution history.

59. I understand that a district court has yet to construe the claim terms of this patent. At this time, I do not see the need to construe any terms of the challenged claims for the purposes of this proceeding. Therefore, in preparing my analysis, I have applied the ordinary and customary meaning that each claim term would have to a person of ordinary skill in the art in light of the '787 patent's specification and prosecution history. If any claim terms are differently construed, I reserve the right to reassess my opinions under said constructions.

VIII. LEVEL OF ORDINARY SKILL IN THE ART

60. In rendering the opinions set forth in this declaration, I have been asked to consider the '787 patent's claims and the prior art through the eyes of a person of ordinary skill in the art (which I may also refer to as "one skilled in the art," "skilled artisan," "POSITA," or similar variations). I have considered factors such as the educational level and years of experience of those working in the pertinent art, the

types of problems encountered in the art, the teachings of the prior art, patents and publications of other persons or companies, and the sophistication of the technology.

61. Taking into consideration the factors described in Section V.A, it is my opinion that a POSITA at the time of the purported invention would have had at least a bachelor's degree in Computer Science or Electrical Engineering or an equivalent engineering discipline, and at least two years of experience in the field of software systems for web-based communications. Additional education could substitute for professional experience, and professional experience could substitute for formal education.

62. I met the criteria for a POSITA at the effective filing date of the '787 patent.

IX. THE PRIOR ART

A. Sastry (U.S. Patent No. 6,687,877)

63. Sastry issued as U.S. Patent No. 6,687,877 on February 3, 2004, and was filed on February 17, 1999. Sastry, cover. I understand and have been asked to assume that Sastry is prior art to the '787 patent.

64. Sastry discloses “a web-based call center coupled to a call center agent terminal and a customer terminal.” Sastry, 2:32-34. In Sastry, the customer can “formulate a query” to send to an agent “[b]y entering dynamic annotation data into a web page,” and the agent can “formulate ... a response to a query” to send to the

customer in the same manner. *Id.*, 8:29-32. The dynamic annotations “integrate voice” messages from the customer and agent. *Id.*, 8:32-35; *see also id.*, 2:20-31.

65. Both the agent terminal and the customer terminal “include a web browser for accessing web documents from [a] web server and annotation plug-in software for recording ... dynamic annotations on web documents.” *Id.*, Abstract, FIG. 2; *see id.*, 6:35-40. The annotation plug-in software “is designed to operate with a commercial web browser.” *Id.*, 6:35-45. The customers and agents upload the formulated query or response to a server at the call center over a network. *Id.*, Abstract, FIG. 2; *see id.*, 3:11-13, 6:48-57, 7:33-35, 7:65-8:1, 8:29-35. Figure 2 illustrates the pathway through which electronic web documents containing dynamic annotations (including voice) may be transmitted between a customer and a call center agent. *Id.*, FIG. 2, 2:20-25, 7:65-8:1.

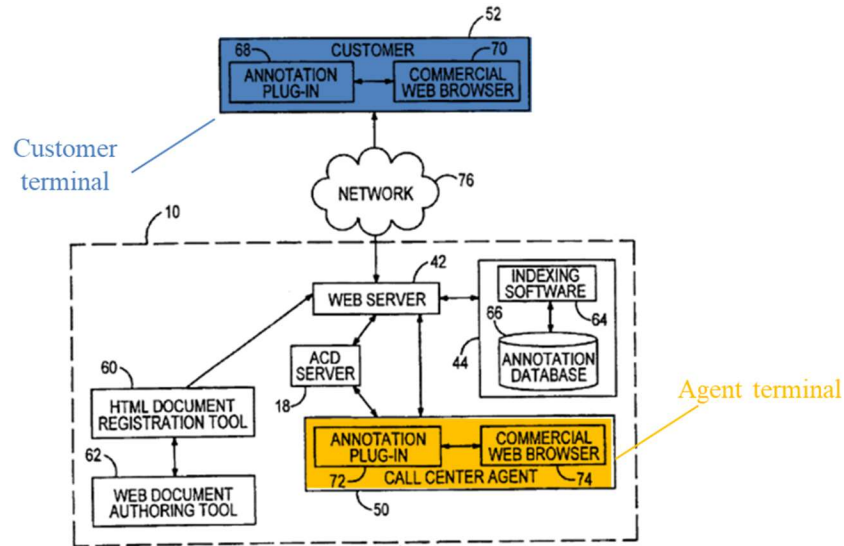


FIG. 2

Sastry, FIG. 2 (annotated).

66. As shown above, Sastry's call center agent is encompassed within call center 10, which also encompasses web server 42, annotation server 44, and ACD server 18. *Id.* These servers cooperate to perform various functions, including receiving and storing the transmitted request from the customer terminal (*id.*, 5:62-66), identifying a "qualified" agent to "handle" the request (*id.*, 8:11-14, 6:25-34), routing the request to a qualified agent (*id.*, 8:14-15, 6:16-17), and transmitting the qualified agent's response back to the customer. *Id.*, 7:16-19, 7:33-43, 7:28-31; *see id.*, Abstract. Figure 4 illustrates a process for transmitting an information request to an agent.

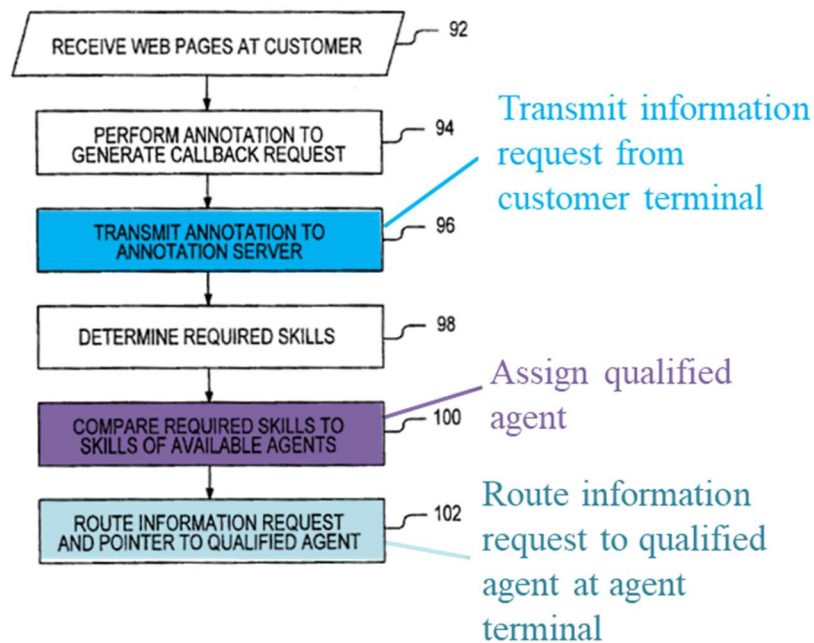


FIG. 4

Sastry, FIG. 4 (annotated).

B. Valentine (U.S. Patent Application Publication No. 2001/0056351)

67. Valentine was published as U.S. Patent Application Publication No. 2001/0056351 on December 27, 2001, and was filed on June 26, 2001. Valentine, cover. I understand and have been asked to assume that Valentine is prior art to the '787 patent.

68. Valentine's system allows users, "such as internet users, to create audio files, and post such audio files on a common or centrally located server for retrieval (e.g., listening)." Valentine ¶16; *see id.* ¶8 (disclosing systems and methods that "allow audio data to be distributed with text documents, including HTML documents, over a network such as the internet"). In one embodiment, "internet users

in a threaded discussion group can exchange entertainment and information in an audio form.” *Id.* ¶20. “For example, one user can post an audio message to the group, wherein another user can thereafter listen to the audio message and reply to it by creating another audio message.” *Id.* In another example, Valentine’s system is “utilized for auctions” or “presenting items for sale, etc.” *Id.* ¶48.

69. Users record audio messages via a “recorder applet” on an “initiating device.” *Id.* ¶33, FIG. 1. “The applet can present a user ... with audio controls, prompting the user to, for example, record, stop, preview, pause, and save a spoken audio clip or audio data that the user can record by speaking into a microphone.” *Id.* ¶21. The audio message is “store[d] ... in a temporary file 28 in local memory of the initiating device 21” and “transmit[ted]” to a “system server 12” (or the centrally located server). *Id.* ¶¶33-34. This server can “include one or more servers.” Valentine ¶30. For example, in some embodiments, the system server “can be clustered together to handle more traffic[] and can include separate servers for different purposes such as a database server, an application server, and a Web presentation server.” *Id.* ¶28.

C. Boies (U.S. Patent Application Publication No. 2002/0065759)

70. Boies was published as U.S. Patent Application Publication No. 2002/0065759 on May 30, 2002, and was filed on November 29, 2000. Boies, cover. I understand and have been asked to assume that Boies is prior art to the ’787 patent.

71. Boies discloses a coordination server that acts as an intermediary between users and service providers. Boies, Abstract (“A coordinating server automatically manages a plurality of users in obtaining desired services from a plurality of service providers.”). “The server is coupled to the users and the service provider(s) via a network, e.g., Internet,” and “maintains a queue of service requests or buyer offers.” *Id.* ¶11. In Boies, the service providers and users exchange templates, *id.* ¶36, which “are electronic files created by the provider and the user that define attributes or values in categories for goods and services available from a provider and requested by a user.” *Id.* ¶¶34-35. First, “[e]ach [service] provider prepares an electronic template for available services and transmits them to the server,” which “receives, sorts[,] and stores the standard terms.” *Id.* ¶36. “Users obtain descriptions of provider services” and “prepare templates for services responsive to the provider templates,” which are “transmitted to the server” for processing. *Id.* ¶¶36, 34.

72. Boies further discloses that its coordination server uses “Java Servlets” and an “Enterprise Java Bean (EJB)” component to facilitate server functionality. *Id.* ¶¶19, 21, 24. The Java Servlets “interact with the [service] provider or user using the hypertext transfer protocol (HT[TP])” and “run within a request/response server, handling request managed messages from the provider/user and returning response messages to the provider/user.” *Id.* ¶21. The Java Servlet “is a Java object that takes

a request as input, processes it's data, performs some logic, and then issues a response back to the provider/user.” For example, the “Internet interface 220, implemented with Java Servlets, functions as a web server that communicates with the provider/user using the HTTP protocol.” *Id.*

73. The EJB “is a software component architecture” of the server and embodies “object oriented software program components,” including facilitating messaging between providers and users, servicing business processes, and supporting transaction processing. *Id.* ¶¶24-26.

X. GROUNDS OF UNPATENTABILITY

74. Based on my review of the materials set forth above, including my application of the knowledge of a person of ordinary skill in the art (“POSITA”), it is my opinion that claims 1-10 of the ’787 patent are anticipated or would have been obvious to a POSITA. In particular, it is my opinion that claims 1-10 of the ’787 patent would have been anticipated and/or obvious to a POSITA at the effective filing date of the ’787 patent, based on the combinations shown below:

Ground	Claim(s) Challenged	Reference(s)
1A	1, 2, and 4-10	Sastry (anticipation)
1B		Sastry (obviousness)
1C		Sastry and Valentine (obviousness)
2A	3	Sastry and Boies (obviousness)
2B		Sastry, Valentine, and Boies (obviousness)
3A	10	Valentine (anticipation)

3B	10	Valentine (obviousness)
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XI. THE CHALLENGED CLAIMS ARE UNPATENTABLE BASED ON THE PRIOR ART

A. Grounds 1A/1B/1C: Sastry Anticipates or, Alone or in Combination with Valentine, Renders Obvious Claims 1, 2, and 4-10

75. As discussed below, Sastry discloses or renders obvious claims 1, 2, and 4-10 (Grounds 1A/1B). Moreover, Sastry in combination with Valentine renders obvious claims 1, 2, and 4-10 (Ground 1C). For example, to the extent it is argued that Sastry does not disclose or render obvious certain elements of these claims, it is my opinion that Valentine does, and that it would have been obvious to combine Sastry and Valentine for the reasons discussed below.

1. Motivation to Combine

76. A POSITA would have found it obvious to combine Sastry and Valentine. Sastry and Valentine disclose substantially similar and complementary systems and methods for controlling network communications that provide connectionless exchange of audio query messages (and responses) between two users.

77. For example, Sastry discloses customers formulating voice query messages to send to customer service agents, and agents providing voice responses to customer queries. Sastry, 8:29-35, FIGS. 1-2; *see id.*, Abstract, 2:20-31, 2:54-58. Customers and agents “access[]” web documents via web browsers and annotate the

documents with dynamic annotations using a “plug-in software” that operates on the browser. *Id.*, Abstract, 6:35-42; *see id.*, 7:49-66, 7:15-28, 2:27-28 (“dynamic annotation can include recording voice”). The customers and agents use a graphical user interface (GUI) that enables various actions, including recording voice queries, playing back the queries for review before transmission, and uploading the queries to a server at the call center. *Id.*, 6:48-57; *see id.*, 6:35-45, 8:35-47. The servers at the call center receive and store the annotated web documents (*id.*, 5:62-66, Abstract; *see id.*, 2:54-58, 4:41-42), assign an agent based on a skills-based determination (*id.*, 6:25-34), and distribute the documents to the agent for review (*id.*, 3:6-22, 2:20-25, 6:16-25, 8:17-23).

78. Valentine similarly discloses systems and methods for connectionless exchange of audio query messages between two users and a server that acts as an intermediary. Specifically, Valentine discloses users creating and exchanging audio messages through the Internet on threaded discussion groups—one user posts an audio message, and another can listen to it and post a reply. Valentine ¶20, Abstract; *see also id.* ¶48 (employing Valentine’s system for “auctions” or “presenting items for sale, etc.”). To record a message (or reply message), users utilize a recorder applet that operates on a web page on an initiating device (e.g., a computer). *Id.* ¶¶33, 21, 24, 26; *see id.* ¶32. Like in Sastry, the applet provides a GUI for the user to record, play, stop, and preview audio data. *Id.* ¶33. The initiating device includes an

“internal or external” microphone to capture audio from the user and store it as a temporary file in the local memory of the device. *Id.* A “system server” receives and stores the recorded messages (id. ¶¶33, 41), associates audio data with identifiers (id. ¶¶8, 30-31), and distributes audio messages to other users (id. claim 1, ¶16). The user can also “manipulate” or preview the audio data before transmitting it to a system server, which posts the audio message for other users to review and respond. *Id.* ¶¶33, 21; *see id.* ¶34.

79. Thus, Sastry and Valentine are analogous art both to each other and to the '787 patent because they belong to the same field of endeavor: web-based systems and methods for connectionless messaging using servers as intermediaries. Just like Sastry and Valentine, the '787 patent discloses systems and methods for allowing “web page visitors to utter questions into a browser-resident recorder application” via a microphone connected to a computer. '787 patent, Abstract, 10:12-15; *see id.*, 7:5-20, 8:8-16. The user’s questions are sent to a server, which assigns and transfers the message to a service agent. *Id.*, 7:8-12; *see id.*, 7:30-32. The agent, using a computer, records a response to the user and sends the response message to the server to send to the user. *Id.*, 7:12-20.

80. Likewise, Sastry and Valentine are also reasonably pertinent to one of the problems that the inventor of the '787 patent allegedly faced. For example, the '787 patent explains that certain connection-based messaging systems, such as voice

over Internet protocol (VoIP), often require users to wait in a queue and call centers to setup expensive and hard-to-manage infrastructure. *Id.*, 2:54-58. The patent explains that its connectionless system “allow[s] users to spontaneously create and issue messages into a web-based [system] without queuing beforehand.” *Id.*, 6:6-10. It also aims to “create an architecture easily assimilated ... into the product suite architecture of a vendor in the” customer relationship management (CRM) space (e.g., a call center). *Id.*, 5:27-30.

81. Sastry and Valentine address similar problems. Sastry explains that conventional call centers forced users to be placed on hold until an agent became available. Sastry, 1:26-32, 2:2-12; *see id.*, 1:56-2:12. Sastry explains that its connectionless system allows the user to formulate and submit queries “at the user’s own pace,” which leads to efficiencies for the caller and the call center since “call center agents can handle more calls if they are not tied up trying to explain a complicated solution over a live connection such as a telephone call.” *Id.*, 8:29-47. Likewise, Valentine’s system also avoids queuing, instead allowing “one [Internet] user [to] post an audio message to [a discussion] group” and “another user [to] thereafter [retrieve and] listen to the audio message and reply to it by creating another audio message.” Valentine ¶20; *see id.* ¶¶16 (describing users posting audio files to or retrieving the files from a “centrally located server”), 48. Valentine provides subscriber companies a system with simplified architecture, enabling the

companies to implement “audio message board functionality” on their websites “without requiring website software, hardware, or other infrastructure alterations.” *Id.* ¶23; *see id.* ¶21. Thus, users posting audio and audio responses in Valentine’s system need not be connected to each other in order to exchange audio messages, much like the users in the system of the ‘787 patent.

82. Sastry and Valentine are thus both analogous art to one another and to the ‘787 patent. Given that Sastry and Valentine disclose similar systems that operate in a similar manner and are directed to similar and related problems, a POSITA would have been generally motivated to consider the teachings of Valentine in combination with those of Sastry.

83. Additional considerations supporting a POSITA’s motivation to combine Sastry and Valentine are provided below in connection with specific claim elements.

2. Independent Claim 1

a. [1-P]: “A method for connectionless exchange of electronic messages between a user and a host agent of a customer service center, comprising:”

84. To the extent the preamble is limiting, Sastry discloses [1-P]. Sastry discloses a system that allows a customer (“a user”) to exchange electronic messages with an agent (“a host agent”) at a web-based call center (“customer service center”) without a real-time connection between the customer and agent.

85. Sastry discloses “[a] web-based call center and a method for its operation.” Sastry, Abstract. The call center system “include[s] multiple agent and customer terminals.” *Id.* The customer, using the customer terminal, “can transmit an information request in the form of a ... callback request[,] which includes an annotated web document” (or annotated web page). *Id.*, Abstract, 2:20-25; *see id.*, 8:29-32 (noting the same functionality but describing the customer sending a “query” instead of a “callback request”), 2:32-37. “An agent terminal can respond to the information request by” sending a response to the callback request, which also includes an annotated web document. *Id.*, Abstract, 2:20-25; *see id.*, 8:29-32 (noting the same functionality but describing customer sending a “query” and the agent sending a “response to a query”). The callback requests (and responses to those callback requests) are electronic messages exchanged over “network 76.” *Id.*, FIG. 2.

86. As an example, Sastry explains that a customer uses an Internet browser to “access [] call center web pages which include [] product diagrams.” *Id.*, 5:29-38, 6:35-37. The customer can then “execute an annotation session on the web page[] as part of a request for information” (i.e., a query or callback request). *Id.* “The annotation session can [] be a dynamic annotation session in which the customer’s multimedia actions [including voice data input] are recorded and synchronized.” *Id.*, 5:29-38, 8:32-35.

87. Annotated Figure 2 illustrates the pathway through which the electronic messages between a customer and a call center agent are transmitted. Sastry, FIG. 2; *see id.*, 7:65-8:1, 7:16-19.

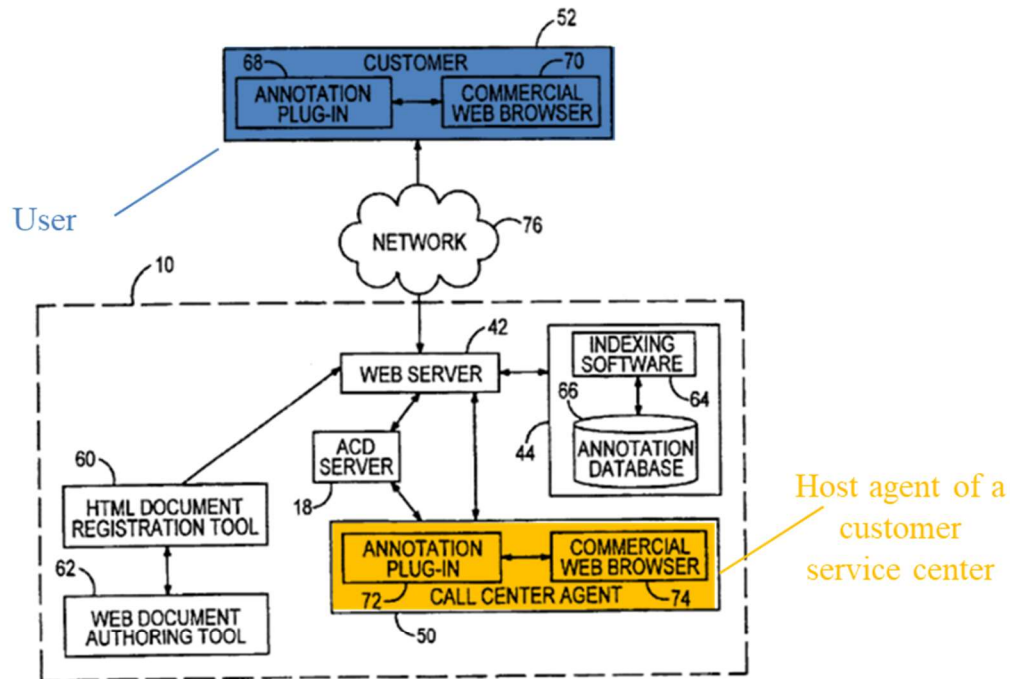


FIG. 2

Sastry, FIG. 2 (annotated).

88. A POSITA would have understood that Sastry's exchange between the customer and call center agent is likewise "connectionless" in the context of the '787 patent. The '787 patent does not define "connectionless exchange," but it does provide that certain embodiments include a "connectionless feature" that "reli[es] on

messages as a medium of exchange versus *persistent real-time telecom sessions* (connections).” ’787 Patent, 3:52-56 (emphasis added). This is consistent with how the term was defined at the time of the invention. *See* Tanenbaum (Ex. 1009), 23-24. Tanenbaum is a computer networking textbook published in 1996—six years before the time of the invention—that describes the design and organization of computer networks, which a POSITA would have understood to include fundamental principles relating to software systems for web-based communications, such as the parts of the Web model (*id.*, 682-689), protocol stack using HTTP over TCP/IP (*id.*, 37), the methods of HTTP (*id.*, 689-691), the HyperText Markup Language used to describe how documents are formatted (*id.*, 695-706), and the Uniform Resource Locator (“URL”) used to address documents on the web (*id.*, 692-695). Sastry’s disclosures similarly do not require persistent real-time telecom sessions, as the agent can annotate a web document while recording a vocal explanation, for the user to play back later as though the response were a live presentation. Sastry, 7:15-31. Sastry further discloses the agent communicating the URL of the annotated document to the customer “via e-mail, fax, or by telephone” so that the user can download the annotated web document for later review. Sastry, 7:33-43, 6:35-55.

89. For example, Sastry explains that the exchange between customer and agent “*approximates* a live presentation”—that is, it allows the user “to integrate

voice, graphics and text manipulation, and gestures (e.g., by directing a pointer icon utilizing a mouse) into a recorded dynamic annotation” while also allowing the user “to deliberate over the contents of the dynamic annotation” before sending it to the agent. Sastry, 8:29-38 (emphasis added). In this way, the user “can formulate the dynamic annotation at [their] own pace,” and the agent is not “tied up” over a “live connection such as a telephone call,” allowing the agent to provide the customer “a concise solution to a problem in the form of a dynamic annotation.” Sastry, 8:38-47. The exchange allows for “greater customer satisfaction.” *Id.*

b. [1-a]: “a user client application on a user device, said user client application configured to:”

90. Sastry discloses [1-a]. Sastry’s customer terminal is a user device because it is a device used by a customer user. *See, e.g.*, Sastry, 7:49-8:1 (describing a customer’s exemplary use of the customer terminal). Sastry also discloses a user client application on the customer terminal because it discloses “annotation function[ality]” that is performed by a client-side “annotation plug-in software 68,” which is “designed to operate with a commercial web browser 70.” Sastry, 6:35-40, FIG. 2; *see id.*, Abstract, 2:36-41. A POSITA would have understood Sastry’s client-side annotation plug-in software, alone or in combination with the web browser, is a “user client application” within the context of the ’787 patent.

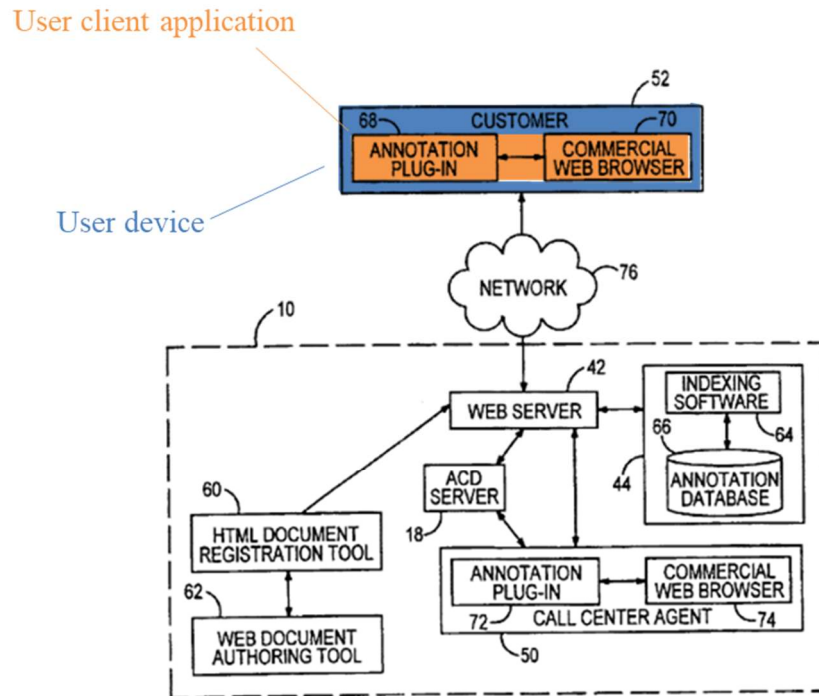


FIG. 2

Sastry, FIG. 2 (annotated).

91. The '787 patent does not use the phrase “user client application” outside of the claims. The specification, however, describes a “browser-resident recorder application” (or a slight variation thereof) used on a customer PC. *See e.g.*, '787 patent, Abstract, FIG. 1. Based on my review of the '787 patent, I understand this recorder application to correspond to the claimed user client application.

92. Sastry's client-side annotation plug-in software is similar to the '787 patent's recorder application. For example, Sastry's plug-in software “enables the

customer terminal to record dynamic annotations on web pages and [] play back [] dynamically annotated web documents.” Sastry, 6:37-40; *see also id.*, 6:49-55. “The dynamic annotation[s] can include recording voice ... information.” *Id.*, 2:27-28, 8:29-32. The ’787 patent’s recorder application likewise “provide[s] a voice message driven customer interaction queuing system that enables” customers to record questions to send to customer service agents. ’787 patent, 4:57-60, Abstract, FIGS. 1-2; *see also id.*, 4:4-10, 4:37-45.

93. Sastry’s client-side annotation plug-in software also functions similarly to the ’787 patent’s recorder application. Like the recorder application, Sastry’s client-side annotation plug-in software adds functionality to existing web-browser functions enabling the browser to “capture [] user-generated multimedia actions,” *id.*, 2:36-44, including the ability to “record[] ... voice information.” *Id.*, 2:49-53; *see also id.*, 6:55-57. In fact, a POSITA would have understood that a “plug-in,” as Sastry discloses, is a software that is embedded onto another application, such as a web browser, and thus is “browser-resident.” The ’787 patent similarly explains that the recorder application “can be used *to voice-enable* web pages ... , allowing web page visitors to utter questions into a browser-resident recorder/player application akin to a Walkie-Talkie.” ’787 patent, 4:4-7 (emphasis added); *see also id.*, 1:29-34. Thus, Sastry’s client-side annotation plug-in software, alone or in combination with

Sastry's browser, corresponds to, and teaches the '787 patent's "browser-resident recorder/player application."

94. Moreover, a POSITA would have understood that Sastry's client-side annotation plug-in software, alone or in combination with the web browser with which it operates, discloses an application consistent with the common understanding of an "application," which is a software program for performing a task or function. *See, e.g.*, Ex. 1010, 76; Ex. 1011, 27; Ex. 1012, 46; Barish (Ex. 1008), 2. The annotation plug-in software is a software program that performs specific tasks or functions, including those discussed in the following sections. *See infra* Sections XI.A.2.c-XI.A.2.d (limitations [1-a.i], [1-a.ii]).

95. Accordingly, it is my opinion that a POSITA would have understood that Sastry's client-side annotation plug-in software, alone or in combination with Sastry's browser, is a "user client application" in the context of the '787 patent. Below, I refer to Sastry's client-side annotation plug-in software, alone and in combination with its web browser, as Sastry's "customer annotation application."

c. [1-a.i]: "locally record and store an audio query message of said user on said user device;"

96. Sastry discloses [1-a.i]. Sastry's customers use the customer annotation application on the customer terminal to record voice messages, which are stored on the customer terminal.

97. Sastry discloses that the user “locally record[s]” an audio query message using the customer annotation application. Specifically, Sastry discloses that the customer annotation application enables the customer to formulate a query by “accessing web documents” and “recording ... dynamic annotations on [the] web documents.” Sastry, Abstract; *see id.*, 3:6-9, 4:35-39, 6:35-48, 7:58-63 (explaining that the customer “download[s]” the web document to annotate), 8:29-32, FIG. 4. The customer may start recording using the “RECORD” button on the customer annotation application’s “Graphical User Interface (GUI).” Sastry, 6:49-55. The customer “record[s] a particular sequence of multimedia actions” on the web document, including, for example, recording “voice” information. *Id.*, 2:20-31; *see id.*, 2:49-53, 6:49-57, 8:32-35. These recordings and the annotated web document of which they are a part include questions and requests for information from the customer and thus are audio “query” messages. *E.g., id.*, 5:23-37 (discussing using the web documents to “solicit questions from customers” or facilitate “a request for information”), Abstract (“information request”), 8:29-35 (explaining that customers “formulate a query” by “entering [] dynamic annotation[s]” into the web documents), 9:30-40 (“[t]he student can transmit questions”). Moreover, these recordings and annotations form part of Sastry’s “callback request,” further confirming that they are audio “query” messages. *Id.*, 7:49-64. Thus, Sastry’s

annotated web document includes a customer audio query message that is recorded using the customer annotation application. *Id.*, 8:29-32, FIG. 4.

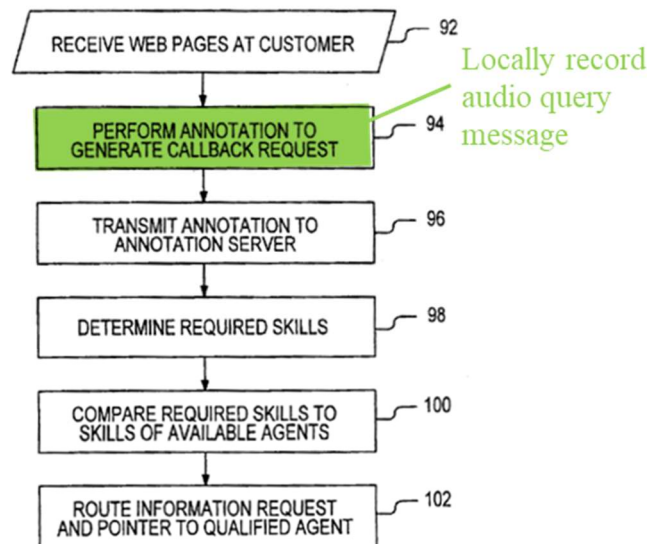


FIG. 4

Sastry, FIG. 4 (annotated).

98. Moreover, the recording occurs on the customer terminal (i.e., locally) as Sastry explains that the annotated web document is later uploaded from the customer terminal to a server of the call center. *Id.*, 5:62-6:1, FIG. 2; *see id.*, Abstract, 3:11-13, 3:35-38, 3:44-46, 6:54-55, 7:33-35. A POSITA would have understood that uploading the annotated web document in this manner means the documents were locally recorded at the customer terminal before being uploaded.

99. Sastry also discloses that the annotated web document (with the audio query message) is locally “store[d]” on the customer terminal. Specifically, it

explains that the customer annotation application “store[s]” the annotated web document, including the “multimedia actions” that were recorded. *Id.*, 6:48-49, 6:37-40; *see also id.*, 2:36-44, 2:65-67, 3:35-38, 3:44-45.

100. Other portions of Sastry confirm this understanding. For example, Sastry explains that the annotated web document is “stored in memory,” which a POSITA would have understood to refer to storing the document in the memory of the customer terminal. *Id.*, 6:45-55. By teaching that the user can “deliberate over the contents of the dynamic annotation” to “formulate the dynamic annotation at the [customer’s] own pace, which facilitates the design of a concise and effective presentation,” *id.*, 8:35-40, Sastry confirms to a POSITA that the dynamic annotation would be stored locally on the customer terminal.

101. Sastry also explains that the annotated web document is “uploaded” from the customer terminal to a server in the call center. *Id.*, 5:62-6:1, FIG. 2; *see id.*, Abstract, 3:11-13, 6:54-55, 7:33-35. A POSITA would have also understood that uploading the annotated web document in this manner means the document was stored at the customer terminal before being uploaded.

102. Accordingly, it is my opinion that a POSITA would have understood that Sastry’s customer annotation application is configured to locally record and store an annotated web document (with the audio query message) created by a customer on the customer terminal.

d. [1-a.ii]: “transmit said recorded audio query message to a host server;”

103. Sastry discloses or, alone or in combination with Valentine, renders obvious [1-a.ii]. Sastry’s customer uses the customer annotation application to upload (“transmit”) the annotated web document (including the audio query message) to a host server at the call center.

i. Sastry (Grounds 1A/1B)

104. Sastry discloses transmitting the annotated web document to a call center server. After creating the annotated web document (and storing it on the customer terminal), as explained above, the customer in Sastry uses the customer annotation application to upload the document to a server in the call center. Sastry, 5:62-6:1, FIGS. 1-2, 4; Section XI.A.2.c (limitation [1-a.i]); *see* Sastry, Abstract, 3:11-13, 6:54-55, 7:33-35, 7:65-8:1. For example, Sastry’s web server 42 receives the annotated web document from the customer terminal, and then it is stored on Sastry’s annotation server 44. *Id.*, 5:62-67. Sastry also explains that web server 42 and annotation server 44 “may be a single unit.” Sastry, 4:41-42. Figure 4, reproduced below, shows the customer annotation application transmitting the annotated web document to the annotation server (via the web server):

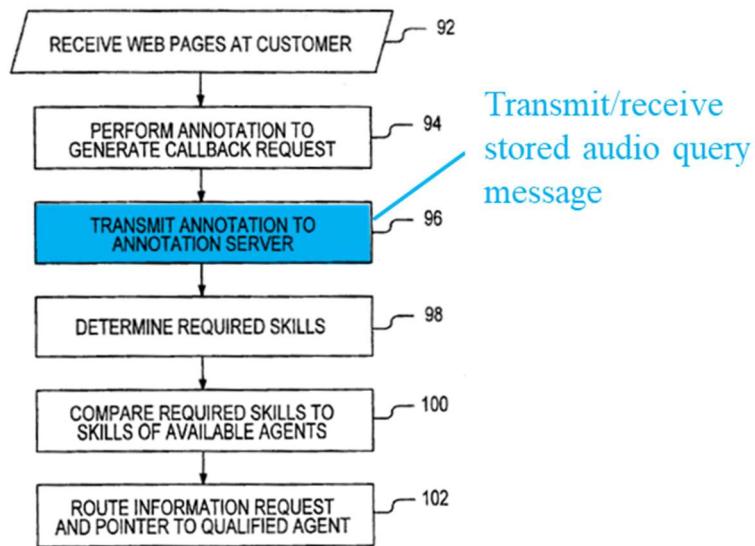


FIG. 4

Sastry, FIG. 4 (annotated). Sastry therefore discloses [1-a.ii].

105. Moreover, Figure 2 of Sastry, reproduced below, shows the web server 42 and annotation server 44 along with the ACD server 18. A POSITA would have understood the web, annotation, and ACD servers to be “a host server” in the context of the ’787 patent because these servers together perform typical server-side functions that facilitate the connectionless messaging exchange between customers and agents. The web server stores and provides access to the pre-annotated web documents and receives the annotated web documents from the customers and agents. Sastry, Abstract, 5:62-6:1, 2:54-58, FIG. 2; *see id.*, 3:10-12. The annotation server can also store the annotated web documents and extracts information from the documents that indicates the skills required by a call center agent to process a

customer's audio query. *Id.*, Abstract; *see id.*, 3:11-13, 4:39-41, 5:61-6:15. The ACD server identifies the skills of an available agent and then communicates with the annotation server to assign and distribute customer audio queries to the agent based on the extracted key information and identified agent skills. Sastry, 6:16-34; *see id.*, Abstract, 3:13-21.

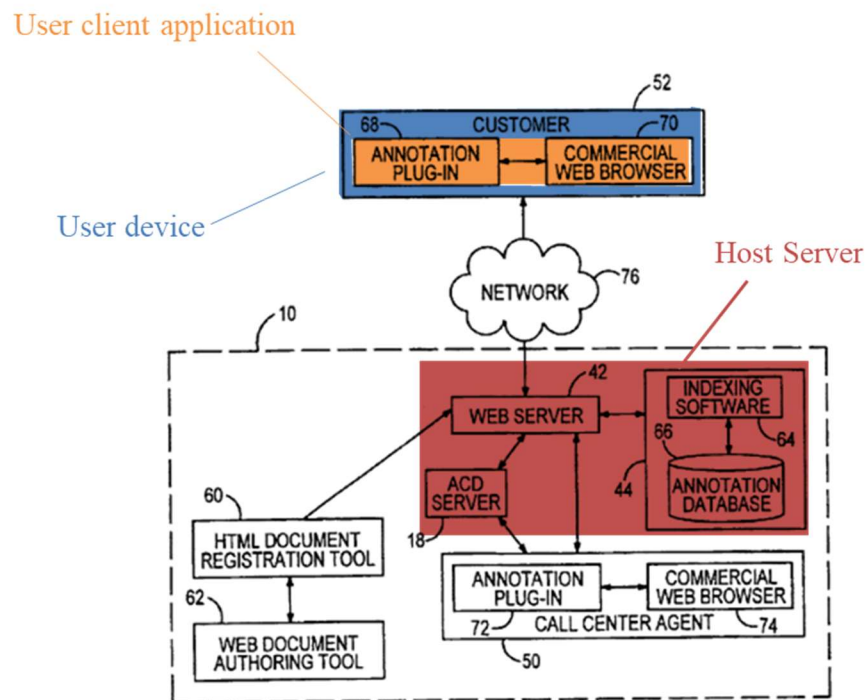


FIG. 2

Sastry, FIG. 2 (annotated).

106. I have been advised and understand that, because claim 1 is an open ended claim containing the transitional phrase “comprising,” the indefinite article

“a” in “a host server,” as recited in claim 1, is presumed to mean “one or more.” Thus, based on this understanding, “a host server” can comprise one or more servers. Indeed, in my opinion this is consistent with how a POSITA would have understood a server generally. A server is a combination of software and hardware components, and server-side functionality is often spread across different machines or consolidated into a single machine. Even in instances, however, where the server-side functionality is implemented over several machines, a POSITA would still have ordinarily referred to the functionality as “a server” or “the server” when discussing the machines and their functionality.

107. Nonetheless, even if “a host server” were to require a single server, Sastry discloses or at least renders obvious implementing the functionality of the web, annotation, and ACD servers on a single server. For example, Sastry expressly discloses that web server 42 and annotation server 44 “may be a single unit.” Sastry, 4:41-42. A POSITA would immediately recognize this teaching would also apply to server 18 because this server operates similarly to and in conjunction with the web and annotation servers to provide the server-side functionality related to the Sastry’s messaging operation and simply performs different aspects of the operation, as discussed above in this section. Thus, a POSITA would have understood that Sastry discloses implementing the functionality of the web, annotation, and ACD servers into a single server.

108. Alternatively, a POSITA would have found it obvious and routine to incorporate the functionality of three servers into a single, combined server. Indeed, Sastry's express disclosure to combine the web and annotation servers into a single unit directly teaches that the functionality of multiple servers can be combined into a single unit and would have strongly suggested to a POSITA to implement all three servers into a single unit. Sastry, 4:41-42.

109. A POSITA would have found this modification to be routine and conventional because servers consist of software components running on generic hardware for performing the necessary server-side functions. Sastry's servers are no different. The ACD server 18 operates similarly to the web and annotation servers in providing server-side functionality related to the Sastry's messaging operation and simply performs different aspects of the operation, as discussed above in this section. Thus, a POSITA would have found it straightforward to add the additional software components for one server system (e.g., Sastry's ACD server) onto another server system (e.g., Sastry's web/annotation server).

110. A POSITA would have been motivated to modify Sastry in this manner as it would (i) reduce system costs associated with hardware, maintenance, and storage, (ii) optimize server resource utilization by reducing risk of underutilizing servers, and (iii) streamline system infrastructure to reduce maintenance.

111. Accordingly, a POSITA would have understood that Sastry discloses or renders obvious transmitting the annotated web document to “a host server” (the combination of Sastry’s web, annotation, and ACD servers).

ii. Sastry and Valentine (Ground 1C)

112. Alternatively, to the extent it is argued that Sastry does not disclose or render obvious combining the web, annotation, and ACD servers into a single host server, doing so would have been obvious in view of Valentine.

113. In Valentine’s connectionless messaging system, *see supra* Section XI.A.1, a user records audio messages on an “initiating device 21” and “transmit[s] the audio file to the system server 12.” *See supra* Section XI.A.1; Valentine ¶33. Valentine discloses that the system server 12 “include[s] separate servers for different purposes such as a database server, an application server, and a Web presentation server.” Valentine ¶28. But Valentine also discloses that multiple servers can be “clustered together,” *id.*, and expressly discloses that the server 12 can “include *one* or more servers.” Valentine ¶30 (emphasis added). Accordingly, Valentine discloses transmitting the recorded audio file to a system server and implementing the server-side functionality of multiple servers onto a single server.

114. A POSITA would have found it obvious to combine the teachings of Sastry and Valentine to produce a combined system using a single server to perform multiple functions, as Valentine expressly discloses. *See* Valentine ¶¶28 (expressly

combining three servers used for different purposes into a single server), 30. Specifically, in the combined system, Sastry's web, annotation, and ACD servers are implemented as a single server, i.e., the claimed "host server," that receives, assigns, and distributes the audio query message. *See also infra* Section XI.A.2.e (limitation [1-b]).

115. A POSITA would have found the combined system with a single server obvious because both references provide express disclosure of consolidating servers into single units. *See* Sastry, 4:40-41 (providing express disclosure to combine the web and annotation servers into a single unit); Valentine ¶¶28 (consolidating "separate servers for different purposes such as a database server, an application server, and a Web presentation server" into a single system server 12), 30. Thus, Sastry and Valentine directly teach that the functionality of multiple servers can be combined into a single unit, and this would have strongly suggested to a POSITA to implement Sastry's three servers into a single unit.

116. A POSITA would have found the combination to be routine and simple because servers are merely a compilation of software components running on generic hardware for performing the server-side functions. Sastry's and Valentine's servers are no different and each provides similar server-side functionality related to each's messaging operations. *See supra* Section XI.A.1. As explained above, Sastry discloses that the web, annotation, and ACD servers receive and store an audio query

message, associate the skills required to review the message with an agent's skills, and distribute the audio query message. *See supra* Section XI.A.2.d.i (limitation [1-a.ii, Grounds 1A/1B]). Similarly, Valentine's system server receives an audio message (Valentine ¶33), associates the audio data with a generated second identifier (*id.* ¶¶8, 30-31), and distributes the audio message to other users through an online posting (*id.* claim 1, ¶16). Thus, a POSITA would have found it straightforward to install the software components of Sastry's web, annotation, and ACD servers onto a single server, as Valentine expressly discloses. *See id.* ¶¶28, 30.

117. A POSITA would have been motivated to combine Sastry and Valentine in this manner as it would (i) reduce system costs associated with hardware, maintenance, and storage, (ii) optimize server resource utilization by reducing risk of underutilizing servers, and (iii) streamline system infrastructure to reduce maintenance. Moreover, as Valentine explains, such modification and consolidation helps servers handle more traffic. Valentine ¶28.

118. Combining Sastry and Valentine in this manner simply combines prior art elements (Sastry's system and Valentine's consolidation of multiple servers into a single server) according to known methods to yield predictable results (using an intermediary server for connectionless messaging between two devices, as both Sastry and Valentine disclose). *See supra* Section XI.A.1. The combination is also a simple substitution of one known element (Valentine's consolidation of multiple

servers into a single server to perform server-side functionality) for another (Sastry's system using web, annotation, and ACD servers to perform server-side functionality) to obtain predictable results. This combination also uses a known technique (clustering or consolidating servers into one server, as Valentine discloses) to improve similar devices (intermediary servers disclosed in Sastry and Valentine) in the same way (to reduce system costs, optimize server resource utilization, streamline system infrastructure, and increase traffic capacity).

119. Accordingly, a POSITA would have understood that Sastry and Valentine render obvious transmitting the annotated web document to "a host server" that combines Sastry's web, annotation, and ACD servers.

120. Thus, Sastry discloses or, alone or in combination with Valentine, renders obvious [1-a.ii].

- e. **[1-b]: "said host server configured to receive, distribute and assign the stored audio query message to said host agent device; and"**

121. Sastry discloses or, alone or in combination with Valentine, renders obvious [1-b]. For example, as discussed below, Sastry discloses or, alone or in combination with Valentine, renders obvious a host server that receives annotated web documents, assigns agents to review the documents, and distributes the documents to the agent terminal ("host agent device") for agent review and response.

122. As explained in [1-a.ii], Sastry's web, annotation, and ACD servers together disclose the "host server" of claim 1. *See supra* Section XI.A.2.d. Moreover, as explained in [1-a.ii], to the extent it is argued that the "host server" must be a single server, Sastry discloses or, alone or in combination with Valentine, renders obvious combining the web, annotation, and ACD servers into a single server. *See id.* The annotated web document is transmitted from the customer terminal to Sastry's host server and, thus, this server is configured to receive the annotated web document. *Id.*; *see, e.g.*, Sastry, 5:62-6:1 ("The web server 42 receives the submissions from the customer terminals 52 . . ."), FIG. 4.

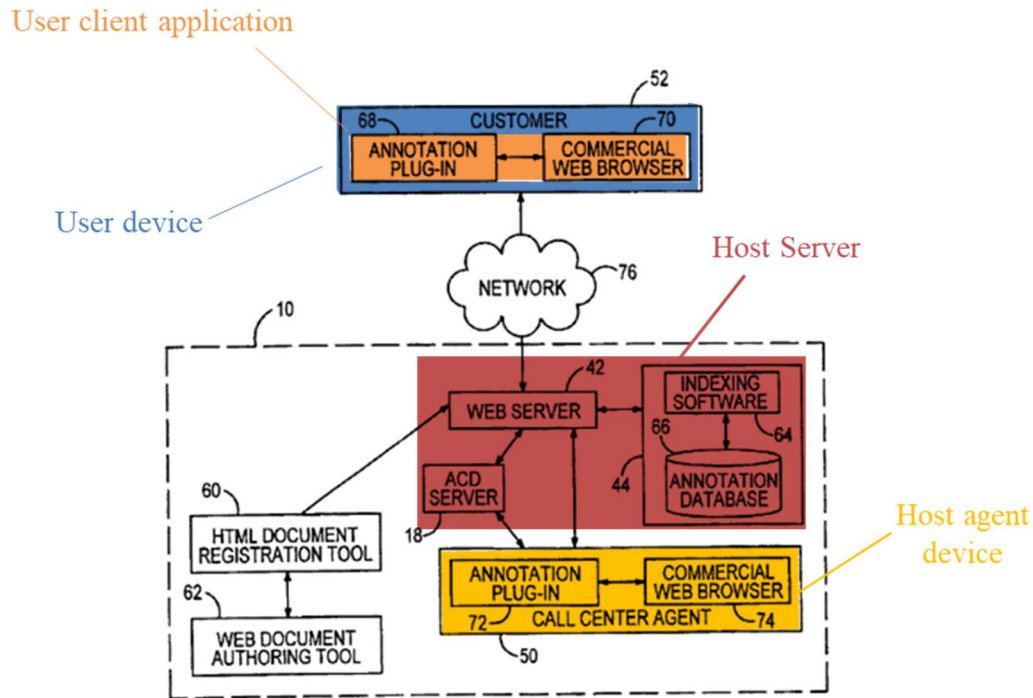


FIG. 2

Sastry, FIG. 2 (annotated).

123. Sastry's host server assigns the received annotated web document to an agent at the customer call center. Sastry discloses that the annotation server includes "indexing software 64" that "determines the [agent] skills required" for handling a customer audio query, which is presented in the annotated web documents. Sastry, 7:65-8:10, FIGS. 1-2, 4. Based on this determination, the ACD server "compares the required skills data to the skills sets associated with the call center agents to identify a call center agent qualified to" review the customer audio query on an "agent

terminal” (“host agent device”). *Id.*, 8:8-14, FIG. 4; *see also id.*, 7:11-15, 3:15-18, 6:22-34. As explained in [1-a.ii], Sastry’s host server incorporates the functionalities of the annotation server and ACD server and, thus, performs the determination and identification steps noted above. *See supra* Section XI.A.2.d. Thus, Sastry’s host server assigns the annotated web document to an agent terminal for agent review.

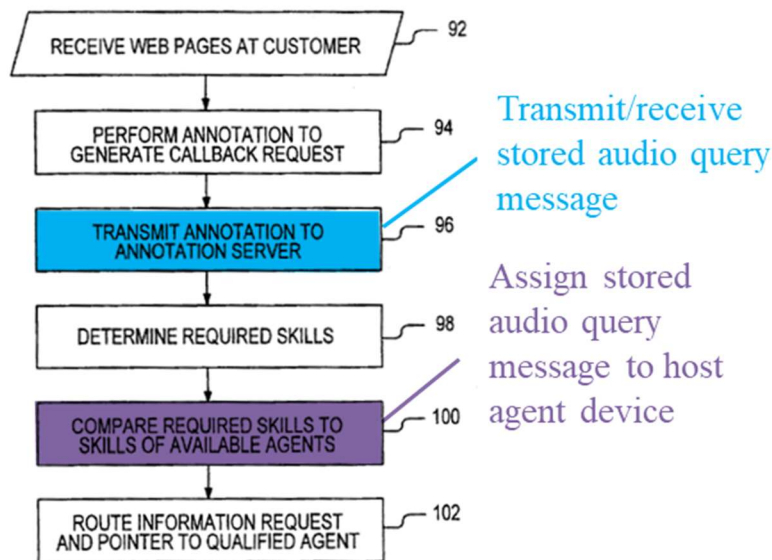


FIG. 4

Sastry, FIG. 4 (annotated).

124. Sastry’s host server distributes the annotated web document to an agent at the customer call center. Sastry explains that the annotated web document (that includes the customer’s audio query) is “transmit[ed] to a second terminal”—for example, the agent terminal. *Id.*, 2:20-25, 5:6-10, 9:62-67; *see id.*, 6:65-67, 9:30-40.

Specifically, Sastry explains that the annotated web document is “submitted to the annotation server” and the ACD server “routes the annotated web [document] to the agent terminal.” *Id.*, 3:6-22; *see id.*, 8:14-17, 7:12-15, FIGS. 2, 4. Sastry also consistently explains that the agent “obtain[s]” the annotated web document from a server to review and formulate a response. *Id.*, 8:17-23 (explaining that an agent uses a pointer to obtain the annotated web document from the annotation server); *see id.*, 2:54-58, 7:16-28, 8:29-32, Abstract. A POSITA would have understood that an agent terminal “obtaining” the annotated web document from the server means those documents were distributed from the server to the agent terminal. *See id.*, 5:5-10 (indicating that the annotated web document is downloaded to the agent terminal). As explained in [1-a.ii], Sastry’s host server incorporates the functionalities of the web server, annotation server, and ACD server and, thus, performs the routing and distribution steps noted above. *See supra* Section XI.A.2.d.

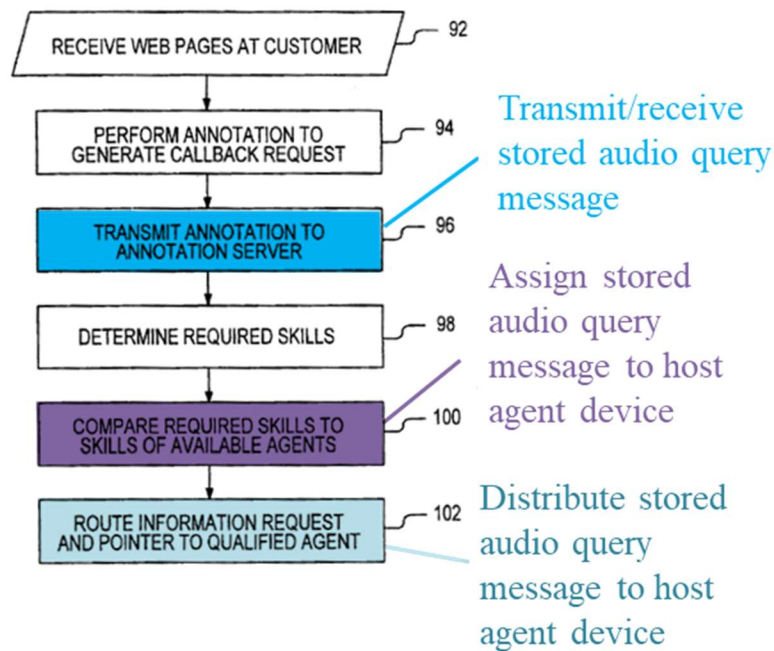


FIG. 4

Sastry, FIG. 4 (annotated).

125. Accordingly, Sastry discloses or, alone or in combination with Valentine, renders obvious a host server configured to receive the annotated web document (with the audio query message) and assign and distribute the document to the agent terminal.

- f. [1-c]: “an agent client application on said host agent device configured to record and transmit a response to the user client application.”

126. Sastry discloses or renders obvious [1-c]. Sastry discloses an agent client application on the agent terminal because it discloses agent-side “annotation plug-in software” that is designed to operate on a web browser of the agent terminal and is used “for recording ... dynamic annotations on web documents.” Sastry,

Abstract, FIG. 2; *see id.*, 6:40-57 (describing agent terminal including “a commercial web browser 74 and annotation plug-in software 72”), 7:16-28, 8:17-23, 8:29-38. The agent records a “response to a [customer’s] query,” “integrat[ing] voice ... into [the] record[ing].” *Id.*, 8:29-32; *see id.*, 2:20-31, 2:54-58. This response is transmitted to the customer so that the customer can “listen and view the [agent’s] response to the [customer’s] callback request” (i.e., query). *Id.*, 7:28-31; *see id.*, 2:20-25, 2:58-3:5, 6:35-40 (noting that the customer annotation application, *see supra* [1-a], enables the customer to “play back [] dynamically annotated web documents”), 8:44-47; *supra* Section XI.A.2.b.

127. The agent-side annotation plug-in software is similar to Sastry’s client-side “annotation plug-in software 68” that is used on the customer terminal. *See supra* Section XI.A.2.b (limitation [1-a]). A POSITA would have understood Sastry’s agent-side annotation plug-in software, alone or in combination with the web browser, to be an “agent client application” within the context of the ’787 patent, including for the reasons noted in [1-a] explaining that the client-side annotation plug-in software, alone or in combination with a web browser with which it operates, is a “user client application.” *Id.*

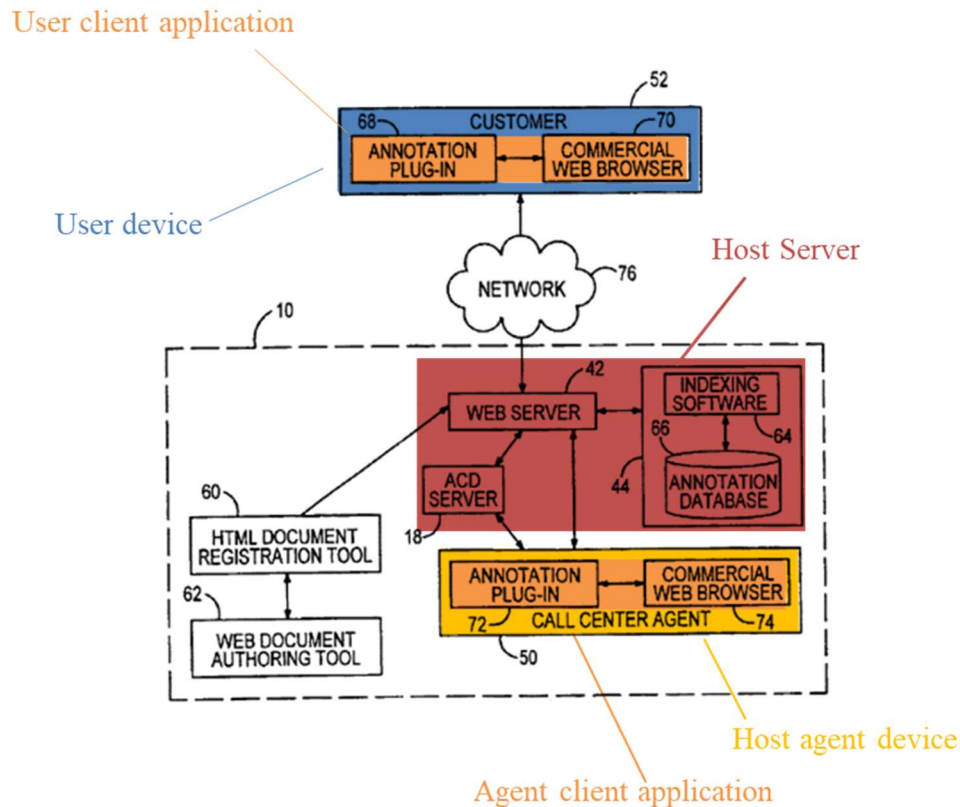


FIG. 2

Sastry, FIG. 2 (annotated).

128. The '787 patent does not use the phrase “agent client application” outside of the claims. The specification, however, describes a “browser-resident recorder application” (or a slight variation thereof). *See, e.g.*, '787 patent, Abstract, 1:29-32 (describing the recorder application as “akin to Walkie-Talkie”), FIG. 1 (showing Customer PC 10 with “Customer Flash GUI” 50, which shows the Walkie-Talkie-type recorder application), 13:19-33. The '787 patent’s Agent PC includes a browser-resident recorder application. *Id.*, FIG. 1 (showing “Agent Flash GUI” 50’

that shows a Walkie-Talkie-type recorder application); *see id.*, Abstract (describing the customer “Client” elements and “Agent” elements as both including “browser[s]”), 7:5-20, 8:5-23, 10:59-63. Based on my review of the ’787 patent, I understand that the agent uses a browser-resident recorder application, and this application corresponds to the claimed agent client application.

129. Sastry’s agent-side annotation plug-in software is similar to the ’787 patent’s recorder application used on the Agent PC. For example, Sastry’s agent-side annotation plug-in software “enable[s] the agent terminal to play back [a customer’s] dynamically annotated web documents and to record dynamic ... annotations on web documents.” Sastry, 6:40-45; *see also id.*, 6:49-55. “The dynamic annotation[s] can include recording voice ... information.” *Id.*, 2:27-28; *see id.*, 8:29-35. The ’787 patent’s recorder application used on the Agent PC likewise “provide[s] a voice message driven customer interaction queuing system that enables” customer service agents to record audio message responses to customer’s questions. ’787 patent, 4:57-60, Abstract, FIGS. 1-2; *see also id.*, 4:4-10, 4:37-45.

130. Sastry’s agent-side annotation plug-in software also functions similarly to the ’787 patent’s recorder application on the Agent PC. Like the recorder application, Sastry’s agent-side annotation plug-in software adds functionality to existing web-browser functions enabling the browser to “capture [] user-generated multimedia actions,” *id.*, 2:34-44, including the ability to “record[] ... voice

information.” *Id.*, 2:49-53; *see also id.*, 6:55-57. The ’787 patent similarly explains that the customer-side recorder application “can be used *to voice-enable* web pages ... allowing web page visitors to utter questions into a browser-resident recorder/player application akin to a Walkie-Talkie.” ’787 patent, 4:4-7 (emphasis added), *see also id.*, 1:29-34. A POSITA would have understood that this would have similarly applied to the agent-side operations in the ’787 patent, such that the recorder application on the Agent PC voice-enables “Agent browser” 15’ allowing the agent to record a response to a customer’s questions. *Id.*, FIG. 1, 13:19-23.

131. Moreover, a POSITA would have understood that Sastry’s agent-side annotation plug-in software, alone or in combination with the web browser with which it operates, discloses an application consistent with the common understanding of an “application,” which is a software program for performing a task or function. *See, e.g.*, Ex. 1010, 76; Ex. 1011, 27; Ex. 1012, 46; Barish (Ex. 1008), 2. The annotation plug-in software is a software program that performs specific tasks or functions, including recording and transmitting annotated web documents, as discussed in this section.

132. Accordingly, it is my opinion that a POSITA would have understood that Sastry’s agent-side annotation plug-in software, alone or in combination with Sastry’s browser, is a “agent client application” in the context of the ’787 patent.

Below, I refer to Sastry's agent-side annotation plug-in software, alone or in combination with its web browser, as Sastry's "agent annotation application."

133. Accordingly, Sastry discloses or, alone or in combination with Valentine, renders obvious claim 1.

3. Claim 2: "The method of claim 1, wherein the transfer of query messages over said network occurs using protocols defined by hypertext transfer protocol or file transfer protocol."

134. Sastry discloses or, alone or in combination with Valentine, renders obvious the additional limitation of claim 2. As explained in [1-a.ii], Sastry's customer terminal transmits the annotated web document (with the customer's audio query message) to a host server in the call center. *See supra* Section XI.A.2.d. A POSITA would have understood that this transfer—from a web browser and over a communications network, like the Internet—would have used protocols defined by the hypertext transfer or file transfer protocols.

i. Sastry (Grounds 1A/1B)

135. For example, Sastry explains that the customer terminal accesses the server "via a communications network 76," such as the "Internet." Sastry, 5:11-22, FIG. 2. A POSITA would have understood, from this disclosure, that Sastry's customer and agent terminals use this communications network 76 to transmit the annotated web document to the host server. *See supra* Sections XI.A.2.d (limitation [1-a.ii]), XI.A.2.f (limitation [1-c]).

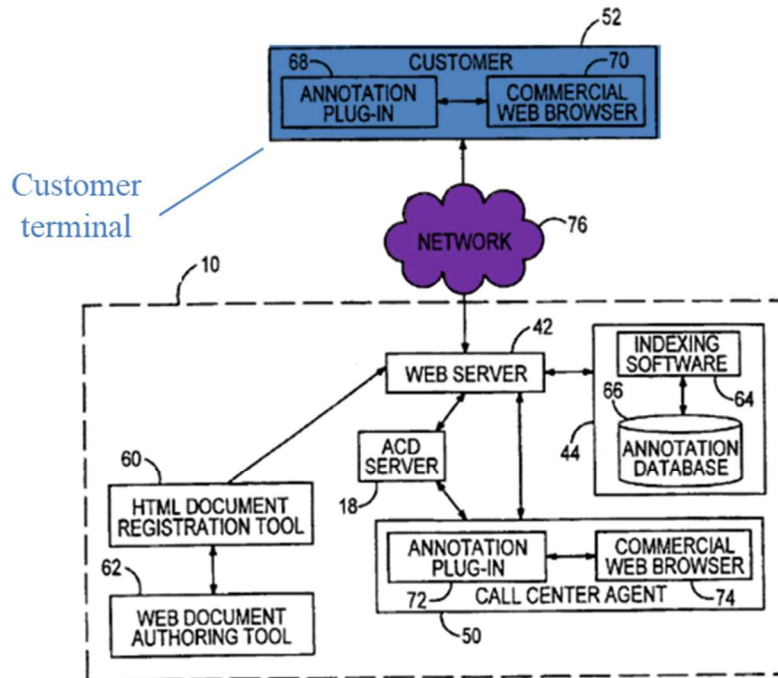


FIG. 2

Sastry, FIG. 2 (annotated).

136. Moreover, a POSITA would have understood that to transfer the annotated web document from the customer or agent terminal to the host server over the Internet using a web browser, as Sastry discloses, the transfer must use a communication protocol that defines a set of rules and conventions on how to transmit data. A POSITA would have known and appreciated that two ubiquitous protocols used in connection with transmitting web documents over the Internet were the hypertext transfer protocol (HTTP) and the file transfer protocol (FTP). For

example, a POSITA would have recognized FTP as an extremely common protocol for transferring files (i.e., Sastry's annotated web documents) between a client device (i.e., Sastry's customer or agent terminal) and a server (i.e., Sastry's host server) over the network (i.e., the Internet) at the time of the claimed invention. Tanenbaum (Ex. 1009), 693 (noting that, in 1996, FTP "ha[d] been around more than two decades and [was] well entrenched," enabling users to access and obtain files); *see id.*, 37, 688-91. Likewise, a POSITA would have also recognized that HTTP was equally, if not more, commonly used at the time of the claimed invention, and enables communication between web browsers (i.e., Sastry's browser on the customer or agent terminal) and web servers (i.e., Sastry's host server), including by defining how communication messages are formatted and transmitted. *Id.*, 689 (identifying HTTP as the "standard Web transfer protocol" in 1996); *see id.*, 37, 688, 690-92, 693 ("The http protocol is the Web's native language").

137. A POSITA reading Sastry's disclosure of Internet-based transfer of web documents via a browser would have understood that those transfers use HTTP or FTP, or would have found it obvious to implement them using these protocols. Those options are two of a finite number of protocols used for such transfers, and a POSITA would have been able to implement them with a reasonable expectation of success. This is due, again, to the ubiquitous nature of both protocols and their common use in applications and systems like Sastry's.

138. Accordingly, Sastry discloses or renders obvious claim 2.

ii. Sastry and Valentine (Ground 1C)

139. To the extent it is argued that Sastry does not disclose or render obvious claim 2, Valentine also discloses it. Valentine discloses transmitting an audio message from a user's initiating device (e.g., a computer or cell phone) to a system server, which then posts the message on the Internet for other users to see. *See supra* Section XI.A.2.d.ii (limitation [1-a.ii], Ground 1C); Valentine ¶26. The initiating device connects to a "communications network," Valentine ¶26, using "wireless communications links and/or protocols." *Id.* ¶27; *see id.* ¶¶3, 8, 26, 28, 30, 32, 42. Valentine's system implements HTTP conventions (or protocols) to transmit and post the audio message. Valentine, Abstract ("audio data may be posted to an internet browser using HTTP conventions") ¶34 ("the recorder applet 22 can utilize a HTTP Post operation to submit the file to ... the system server 12"); *see id.* ¶¶17-18, 21, 42, 45, 48-49, 54. Accordingly, Valentine discloses transferring audio messages over a communications network, such as the Internet, using HTTP protocols.

140. A POSITA would have found it obvious to combine Sastry with Valentine to produce a system that transfers audio messages between the customer or agent terminals and the host server over a communications network using HTTP protocols, as Valentine expressly discloses. *See id.*, Abstract ¶34. Indeed, Sastry discloses that messages are communicated over a communications network, such as

the Internet, Sastry, 5:11-22, but does not expressly state the specific protocol used to communicate messages between devices. Valentine similarly discloses sending audio messages over the Internet, Valentine ¶26, and explains using HTTP conventions to do so. *Id.*, Abstract, ¶34. A POSITA therefore would have been motivated to combine Sastry's and Valentine's teachings in this manner because Valentine provides technical details (e.g., the specific protocol) for implementing Sastry's system.

141. As discussed, a POSITA would have recognized that HTTP was extremely common protocol to use at the time of the claimed invention, and enables communication between web browsers (i.e., Sastry's browser on the customer or agent terminal) and web servers (i.e., Sastry's host server), including by defining how communication messages are formatted and transmitted. *See supra* Section XI.A.3.a. Valentine's disclosures confirm that using HTTP was known in the art and conventional. Valentine ¶¶26-27, 34, 45. With this in mind, a POSITA would have found the combination to be routine and simple.

142. A POSITA would have been motivated to combine Sastry and Valentine in this manner. Modifying Sastry to implement Valentine's teachings is simply combining prior art elements (Sastry's system and Valentine's use of HTTP conventions) according to known methods to yield predictable results (using HTTP to transfer messages over the network). It is also a simple substitution of one known

element (Valentine's technical disclosure relating to HTTP messaging) for another (Sastry's system generally describing communicating over the Internet) to obtain predictable results (using HTTP to transfer messages over the network in Sastry's system). This modification is also using a known technique (using HTTP protocols for sending messages over the Internet, as Valentine discloses) to improve similar devices (systems in Sastry and Valentine that provide connectionless messaging between users via an intermediary server) in the same way (to provide a conventional and widely-used HTTP communication protocol for network communications).

143. Accordingly, Sastry in combination with Valentine renders obvious claim 2.

144. Thus, Sastry discloses or, alone or in combination with Valentine, renders obvious claim 2.

4. Claim 4: "The method of claim 1, wherein the agent client application is embedded in each host agent's browser interface."

145. Sastry discloses or renders obvious the additional limitation of claim 4.

146. Relevant to claim 4, the '787 patent explains that Figure 11 "depict[s] the Blurt Agent browser interface with embedded Blurt Client." '787 patent, 6:58-59, FIG. 11; *see also id.*, FIG. 10, 6:56-57, 8:17-18. Specifically, Figure 11 depicts a Walkie-Talkie-type application 50' that is within agent browser 15' and provides various input buttons for an agent to select. *Id.*, FIG. 11, 13:19-33.

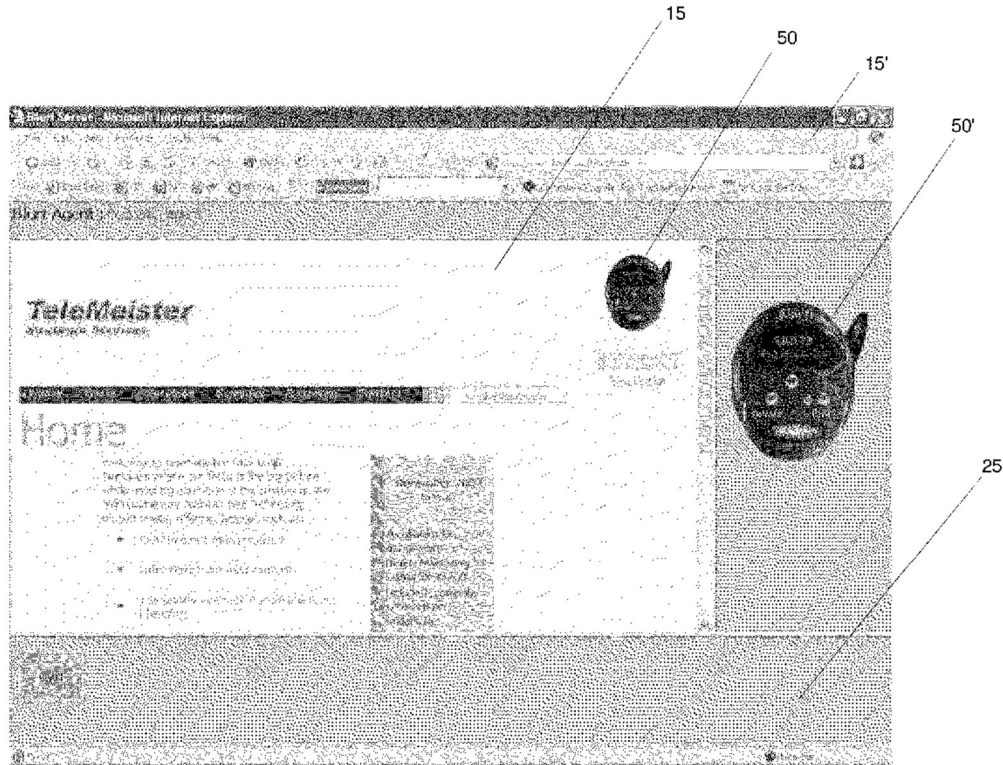


FIG. 11

Id., FIG. 11.

147. Sastry likewise discloses that its agent annotation application, which includes annotation plug-in software (*see supra* [1-c]), is embedded in each agent's web browser. *See supra* Section XI.A.2.f. Sastry explains that the call center may include "multiple agent terminals for handling incoming" requests, Sastry, 5:15-18, and each agent terminal uses an agent annotation application (i.e., the agent-side annotation plug-in software, alone or in combination with the browser on the agent terminal). *Id.*, 6:40-45; *supra* Section XI.A.2.f (limitation [1-c]). A POSITA would have understood that Sastry's annotation plug-in software is embedded into each

agent's web browser because it was known that "plug-in" software operating on a web browser is integrated into the browser to add user functionality. *See supra* Sections XI.A.2.f (limitation [1-c]), XI.A.2.b (limitation [1-a]).

148. This is consistent with Sastry's descriptions of the annotation plug-in software. For example, to annotate a web document, the document is "load[ed]" into web browsers. *Id.*, 8:64-67; *see id.*, 2:36-44, 5:6-10. Then, the agent can perform various actions related to the web document using the annotation plug-in software's graphical user interface (GUI) buttons, including selecting a RECORD button to record an annotation session (i.e., provide dynamic annotations on a web document), a PLAYBACK button to play back a session, and an UPLOAD button to transmit an annotation session to the server at the call center. *Id.*, 6:49-55. A POSITA would have understood that these GUI buttons would be presented on the web browser interface to enable the agent to perform various actions, including annotating the web document. Thus, Sastry's agent annotation application (which includes the plug-in software) is like the '787 patent's Walkie-Talkie-type application 50' that is embedded in the agent's browser and provides various input buttons within the browser interface for an agent to select.

149. Accordingly, Sastry discloses the additional limitation of claim 4.

5. Claim 5: “The method of claim 1, wherein the user client application and the agent client application each comprise a graphical user interface and employ standard or custom audio encoding and decoding techniques.”

150. Sastry discloses or renders obvious the additional limitation of claim 5.

151. Sastry discloses that the user client application and the agent client application each comprise a graphical user interface. For example, Sastry’s customer annotation application, *see supra* [1-a], and agent annotation application, *see supra* [1-c], include a GUI. *See supra* Section XI.A.2.b (limitation [1-a]) (describing the customer annotation application), Section XI.A.2.c (explaining that the customer annotation application has a GUI), Section XI.A.2.f (limitation [1-c]) (describing the agent annotation application with a GUI), Section XI.A.4 (explaining that the agent annotation application has a GUI).

152. Sastry also discloses that the user client application and the agent client application receive and play back audio information that requires employing standard or custom audio encoding and decoding techniques. Claim 1’s use of “*standard or custom* audio encoding and decoding techniques” captures the entire spectrum of encoding and decoding techniques. A POSITA would have understood that systems implement encoding and decoding techniques that are either standard (i.e., techniques that are established and well-known methods that are widely accepted and used within a particular field or discipline) or custom (i.e., techniques that are specifically tailored to address unique requirements or challenges in a

particular context or fit the specific needs). The '787 patent's relevant disclosure likewise presents this option as broadening and not limiting, describing the use of "standard or custom audio encoding/decoding codecs," in support of enabling operation on a "standard browser" of a generic "PC." '787 patent, 8:7-16. For example, a POSITA would have known of standardized codecs in various audio domains. As an example, audio distribution on compact disc was standardized with the CD-DA codec for high-quality, high-bandwidth audio at a sampling rate of 44.1 kHz with 16 bit samples using pulse-code modulation in multiple channels. Additionally, numerous audio encoding and decoding formats were standardized by the ITU for telecommunications, such as G.711, G.723, G.729, providing different quality levels and bandwidth use. Ex. 1014, 13. It was also known to change parameters of standardized codecs, such as sampling rate or sample size, in order to produce other custom codecs. Furthermore, newly developed codecs would have been known to have been custom codecs prior to their standardization, as would codecs that never became standardized. As discussed below, a POSITA would have understood that Sastry's recording, transmitting, processing, and playback of audio query messages on the customer and agent annotation applications over the network would use audio encoding and decoding techniques.

153. As explained above in [1-a] and [1-c], Sastry's customer and agent annotation applications record voice information and transmit annotated web

documents with audio data (i.e., a voice recording). *See supra* Section XI.A.2.b (limitation [1-a]) (describing operations of the customer annotation application), Section XI.A.2.c, Section XI.A.2.f (limitation [1-c]) (describing operations of the agent annotation application). A POSITA would have understood that, to record a customer's or agent's voice message and later transmit an annotated web document with the voice message, the customer and agent annotation applications use encoding techniques to convert the received audio signals into a digital format that can be stored, processed, and transmitted by digital devices, such as the customer and agent terminals.

154. Sastry also discloses that the customer and agent annotation applications allow the customer and agent to play back the annotated web document that includes a voice message. Sastry, 6:35-45; *see id.*, 6:49-55, 7:28-31 (explaining that a customer receives the agent's response to review), 7:16-23 (explaining that the agent receives the customer's annotated web document and reviews the document to provide a response). A POSITA would have understood that the voice messages are encoded as digital signals and, to play back the voice message, the customer and agent annotation applications use decoding techniques to convert this encoded audio data back into a playable audio signal to play back.

155. Sastry further discloses that customers transmit the annotated web document using "H.323 device[s]." Sastry, 7:2-6. It was known by a POSITA that

the ITU H.323 specification required that all terminals implement the standard G.711 audio codec and that terminals may optionally support additional standard codecs. *See* Ex. 1014, 13 (“All H.323 terminals shall have an audio codec. All H.323 terminals shall be capable of encoding and decoding speech according to Recommendation G.711. All terminals shall be capable of transmitting and receiving A-law and μ -law. A terminal may optionally be capable of encoding and decoding speech using Recommendations G.722, G.728, G.729, MPEG 1 audio, and G.723.1.”). Accordingly, a POSITA would have understood that Sastry’s customer terminals, which were H.323 devices, to employ standard audio encoding and decoding protocols. Sastry, 7:2-6. A customer would have also understood that agents use similar H.323 devices when transmitting responses to information requests. *See supra* Section XI.A.2.f (limitation [1-c]); Sastry, Abstract, 2:20-25, 2:54-61, 6:35-57, 8:29-47, Figs. 1-2. Alternatively, in my opinion, because Sastry does not expressly describe any custom encoding or decoding techniques, a POSITA would have further understood that the encoding and decoding techniques employed in Sastry were standard techniques.

156. Accordingly, Sastry discloses this additional limitation of claim 5.

6. **Claim 6: “The method of claim 1, wherein the user records an audio query message in a browser-resident recorder/player application on the user device, and wherein a host agent response to said audio query message is played back to the user by said recorder/player application.”**

157. Sastry discloses the additional limitation of claim 6. As explained in [1-a], Sastry's customer records an audio query message on the customer annotation application and that application is a browser-resident recorder/player application on the customer terminal (i.e., user device). *See supra* Section XI.A.2.b. As explained in [1-c], a customer receives an agent's response to the customer's audio query and plays it back on the same customer annotation application on the customer terminal. *See supra* Section XI.A.2.f; Sastry, 7:27-31, 6:35-40 (noting that the customer annotation application enables the customer to "play back [] dynamically annotated web documents").

158. Accordingly, Sastry discloses the additional limitation of claim 6.

7. Claim 7: "The method of claim 1, wherein said user reviews said recorded audio query message prior to transmission to said host server."

159. Sastry discloses the additional limitation of claim 7. Sastry discloses that the customer annotation application includes a GUI that enables a customer to record an audio query message, *see* [1-a.i], and play back that message, *see* [1-a]. *See supra* Sections XI.A.2.b (limitation [1-a]), XI.A.2.c (limitation [1-a.i]). Sastry further explains that, after recording the message, Sastry's customer "is able to deliberate over the contents of the dynamic annotation," allowing the customer to "formulate the dynamic annotation at the [customer's] own pace," which facilitates the "design of a concise and effective presentation" of the customer's audio query.

Sastry, 8:29-40; *see supra* Section XI.A.2.a (limitation [1-P]). After the customer completes its review, it transmits the message to the host server. *See supra* Section XI.A.2.d (limitation [1-a.ii]); Sastry, 7:33-35; *see also* Sastry, 6:54-55.

160. Accordingly, Sastry discloses the additional limitation of claim 7.

8. Independent Claim 8

- a. **[8-P]: “A computer implemented system for connectionless exchange of electronic messages between a user and a host agent of a customer service center, said computer implemented system comprising:”**

161. To the extent the preamble is limiting, Sastry discloses [8-P] for at least the same reasons it discloses [1-P], which recites “a method for connectionless exchange of electronic messages between a user and a host agent of a customer service center.” *See supra* Section XI.A.2.a.

162. Sastry’s computer implemented system uses customer and agent terminals. Sastry, Abstract. A POSITA would have understood these terminals to disclose “computer devices” because the terminals are configured to perform numerous electronic computer functions including transmitting and receiving data over a network, storing software, and performing web-based tasks. Sastry, Abstract, 3:6-11, 6:35-55, 8:51-54, FIGS. 2, 4, and 5. Indeed, a POSITA would have understood the customer and agent terminals disclose a type of computer (electronic device) based on these same functionalities. Annotated Figure 2 below illustrates the

customer and agent terminals, both of which include software and a web browser and are configured to transmit and receive data over a network.

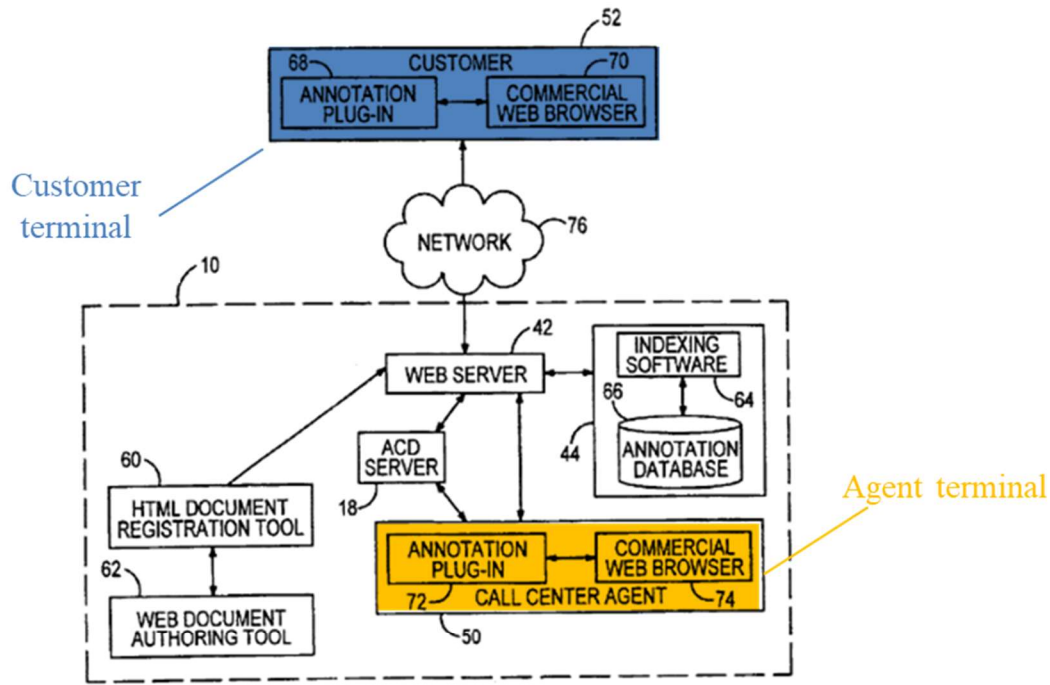


FIG. 2

Sastry, FIG. 2 (annotated).

- b. [8-a]: “a first non-transitory computer readable storage medium configured to store a user client application;”

163. Sastry discloses or, alone or in combination with Valentine, renders obvious [8-a].

164. Sastry discloses a “user client application” for at least the same reasons noted for [1-a], which recites a “a user client application on a user device.” *Supra*

Section XI.A.2.b (explaining that Sastry’s customer annotation application is a “user client application,” as claimed).

165. As explained below, Sastry discloses or, alone or in combination with Valentine, renders obvious “a first non-transitory computer readable storage medium configured to store” Sastry’s customer annotation application.

i. Sastry (Grounds 1A/1B)

166. Sastry discloses or renders obvious that its customer terminal includes non-transitory computer readable storage medium that stores the customer annotation application. The ’787 patent does not discuss the structure or function of computer readable media. However, it was extremely well-known, conventional, and routine that computing devices, such as Sastry’s customer terminal (*see supra* Section XI.A.8.a. (limitation [8-P])), include non-transitory computer readable storage medium to provide persistent storage of computer-readable data that stores common types of information, including operating system files, applications, and system settings and configuration. Indeed, storing programs in non-transitory memory has been a fundamental and conventional aspect of computers for decades. Thus, a POSITA would have known or found it obvious that Sastry’s customer terminal includes a non-transitory computer readable storage medium.

167. A POSITA would have further understood or found it obvious that Sastry’s customer annotation application is the type of application stored on the

customer terminal's non-transitory computer readable storage medium. Applications, such as the customer annotation application, are stored in persistent memory to enable devices to retain and maintain application data. Including such storage provides Sastry's customer terminal the ability to store data in a persistent manner (i.e., over time), improving device usability and performance as data is retained to allow the device to resume operations quickly and minimize data loss. The customer terminal would also improve the user experience as customers could conveniently access applications, such as Sastry's customer annotation application, stored in non-transitory memory without the need to re-download or re-install them (as would be required if the applications were not persistently stored) and resume application activity from previous sessions. Thus, a POSITA would have understood or found it obvious that Sastry's customer annotation application is stored on the customer terminal's non-transitory computer readable storage medium to enable customers to use the application at their convenience to annotate a web document and formulate a query, as Sastry discloses. *Supra* Section XI.A.2.c (limitation [1-a.i]) (explaining that a customer can locally record and store an annotated web document).

168. Accordingly, Sastry discloses or renders obvious a computer implemented system with a customer terminal comprising a non-transitory computer readable storage medium that stores the customer annotation application.

ii. Sastry and Valentine (Ground 1C)

169. To the extent it is argued that Sastry does not disclose or render obvious a non-transitory computer readable storage medium configured to store applications, this would have been obvious based on Valentine.

170. Valentine's users record audio messages on an initiating device 21 (*see* [1-a.ii], Ground 1C), and such recordings occur via a "recorder applet 22" accessed on a web page. Valentine ¶33, FIG. 1; *see id.* ¶27; *supra* Section XI.A.2.d.ii. Valentine explains that the disclosed systems, including initiating device 21, include "a computer-readable storage medium," Valentine ¶57, which is "non-volatile," *Id.* ¶55, and stores "computer program(s)." *Id.* ¶57; *see id.* ¶56. A POSITA would have understood that Valentine's non-volatile storage retains data over time and, thus, constitutes non-transitory storage. A POSITA would have further understood that Valentine's recorder applet 22 is one of the "computer program(s)" stored in the non-transitory storage to allow users to use the applet at their convenience to record audio messages.

171. To the extent it is argued that Sastry does not disclose non-transitory storage, a POSITA would have found it obvious to incorporate Valentine's non-transitory storage into Sastry's customer terminal. A POSITA would have been motivated to do so given the similarities between Sastry's and Valentine's systems and user devices, both in general architecture and specific functionality, as such

similarities would indicate a reasonable expectation that the combination would have succeeded. *See supra* Section XI.A.1 (explaining that Sastry's customer terminal and Valentine's initiating device are user devices used to record and transmit audio messages using specific software programs).

172. Moreover, a POSITA would have understood that it was well-known and conventional that computing devices include non-transitory computer readable storage media, as Valentine discloses, as this architecture provides persistent storage of computer-readable data to store common types of information, including operating system files, applications, and system settings and configuration. Including such storage provides Sastry's customer terminal the ability to store data in a persistent manner (i.e., over time), improving device usability and performance as data is retained to allow the device to resume operations quickly and minimize data loss. The modified customer terminal would also improve the user experience as customers could conveniently access applications, such as Sastry's customer annotation application, stored in non-transitory memory without the need to re-download or re-install them (as would be required if the applications were not persistently stored) and resume application activity from previous sessions.

173. Accordingly, Sastry in combination with Valentine renders obvious modifying Sastry's customer terminal to include non-transitory computer readable storage medium that stores the customer annotation application.

174. Thus, Sastry discloses or, alone or in combination with Valentine, renders obvious [8-a].

- c. **[8-b]: “at least one first processor communicatively coupled to said first non-transitory computer readable storage medium, said at least one processor configured to execute said user client application;”**

175. Sastry discloses or, alone or in combination with Valentine, renders obvious [8-b].

i. Sastry (Grounds 1A/1B)

176. Sastry discloses or renders obvious that its customer terminal includes a processor coupled to its non-transitory storage and configured to execute the customer annotation application. Sastry’s customer terminal stores the customer annotation application in its non-transitory storage. *Supra* Section XI.A.8.b (limitation [8-a]). The ’787 patent does not discuss the structure or function of processors and their interplay with computer readable media. However, it was well-known and routine in the art that computing devices (e.g., Sastry’s customer terminal) execute application programs (e.g., Sastry’s customer annotation application) using a processor, and such computer architecture was conventional long before the ’787 patent’s effective filing date. Including such a processor provides Sastry’s customer terminal the ability to execute software instructions to complete tasks swiftly and efficiently, including those discussed in the following sections. *See infra* Sections XI.A.8.e-XI.A.8.g (limitations [8-c.i], [8-c.ii], [8-c.iii]).

Indeed, storing programs in non-transitory memory that is coupled to a processor and then executing those programs by the processor to perform functions has been a fundamental and conventional aspect of computers for decades. Thus, a POSITA would have known or found it obvious that Sastry's customer terminal includes a processor communicatively coupled to the non-transitory storage to execute the customer annotation application, *see, e.g.*, Sastry, 6:35-57, and that the processor is communicatively coupled to the non-transitory storage.

177. Accordingly, Sastry discloses or renders obvious a computer implemented system with a customer terminal comprising a processor communicatively coupled to the non-transitory computer readable storage medium and configured to execute the customer annotation application.

ii. Sastry and Valentine (Ground 1C)

178. To the extent it is argued that Sastry does not disclose or render obvious a processor coupled to non-transitory storage and configured to execute Sastry's customer annotation application, this would have been obvious based on Valentine.

179. Valentine's non-transitory storage (*see supra* [8-a], Ground 1C) is "readable by [a] processor" and, thus, communicatively coupled to the processor. Valentine ¶55; *see supra* Section XI.A.8.b.ii. Valentine explains that the initiating device is a "microprocessor-based [computer] system" that includes "[computer] program[s] for organizing and controlling the initiating device 21 to operate as

described” throughout Valentine. Valentine ¶26. A POSITA would have understood Valentine’s processor executes the computer programs to organize and control operations on the initiating device, including, for example, executing the recorder applet 22 to enable a user to record an audio message on the device. *See supra* Sections XI.A.2.d.ii (limitation [1-a.ii], Ground 1C), XI.A.8.b.ii (limitation [8-a], Ground 1C) (explaining that the recorder applet is one of Valentine’s computer programs).

180. To the extent it is argued that Sastry does not disclose or render obvious this limitation, a POSITA would have found it obvious to incorporate Valentine’s teachings of a processor that is communicatively coupled to non-transitory storage and executes applications into Sastry’s customer terminal. A POSITA would have been motivated to do so given the similarities between Sastry’s and Valentine’s user devices, both in general architecture and specific functionality, as such similarities would indicate a reasonable expectation that the combination would succeed. *See supra* Sections XI.A.1, XI.A.8.b.ii (limitation [8-a], Ground 1C). A POSITA would have also understood that including a processor in Sastry’s computing device, as Valentine discloses, was well-known and conventional at the time of the invention, which would have further motivated a POSITA to make the proposed combination. Including such a processor provides Sastry’s customer terminal the ability to execute software instructions to complete tasks swiftly and efficiently, including those

discussed in the following sections. *See infra* Sections XI.A.8.e-XI.A.8.g (limitations [8-c.i], [8-c.ii], [8-c.iii]). Indeed, storing programs in non-transitory memory that is coupled to a processor and then executing those programs by the processor to perform functions has been a fundamental and conventional aspect of computers for decades.

181. Accordingly, Sastry in combination with Valentine renders obvious [8-b].

182. Thus, Sastry discloses or, alone or in combination with Valentine, renders obvious [8-b].

d. [8-c]: “said user client application configuring said processor to:”

183. Sastry discloses, or alone or in combination with Valentine, renders obvious [8-c].

184. As discussed above, Sastry discloses or, alone or in combination with Valentine, renders obvious a processor that executes the customer annotation application. *See supra* Section XI.A.8.c (limitation [8-b]). A POSITA would have understood that application software (e.g., Sastry’s customer annotation application) provides a set of computer-executable (or computer-parsable) coded instructions that enable a processor in a computing device (e.g., the processor of Sastry’s customer terminal) to perform specific functions, including those discussed in the following sections. *See infra* Sections XI.A.8.e-XI.A.8.g (limitations [8-c.i], [8-c.ii], [8-c.iii]).

185. Accordingly, Sastry discloses or, alone or in combination with Valentine, renders obvious this limitation.

e. [8-c.i]: “locally record and store an audio query message of said user on said user device;”

186. Sastry discloses [8-c.i] for at least the same reasons it discloses [1-a.i], which recites “locally record and store an audio query message of said user on said user device.” *See supra* Section XI.A.2.c.

f. [8-c.ii]: “provide an interface for optionally reviewing said recorded audio query message prior to transmission; and”

187. Sastry discloses [8-c.ii] for at least the same reasons it discloses Claim 7, which recites “wherein said user reviews said recorded audio query message prior to transmission to said host server.” *See supra* Sections XI.A.7 (claim 7) (explaining that the customer uses the customer annotation application’s GUI to play back a recording prior to transmission); *see also supra* XI.A.2.c (limitation [1-a.i]).

g. [8-c.iii]: “transmit said recorded audio query message to a host server in a store and forward manner;”

188. Sastry discloses or, alone or in combination with Valentine, renders obvious [8-c.iii] for at least the same reasons as those presented in connection with [1-a.ii], which recites “transmit said recorded audio query message to a host server.” *See supra* Section XI.A.2.d.

189. The ’787 patent uses the phrase “store and forward” once outside of claim 8, explaining that an “object is to provide a voice message driven customer

interaction queuing system that offers a method for email-style store and forward service delivery for audio messages with a brief service interval” ’787 patent, 4:66-5:5. In my opinion, a POSITA would have understood that a query is transmitted “in a store and forward manner” if it is either (i) locally stored on the transmitting device before being transmitted to the server, or (ii) transmitted to an intermediary node (e.g., a server) before being forwarded. A POSITA would have understood that Sastry discloses both options.

190. First, Sastry discloses storing the customer audio query message on the customer terminal, *see* [1-a.i], before it is transmitted to the host server, *see* [1-a.ii]. *See supra* Sections XI.A.2.c (limitation [1-a.i]), XI.A.2.d (limitation [1-a.ii]).

191. Second, Sastry discloses or, alone or in combination with Valentine, renders obvious transmitting the audio query to a host server, *see* [1-a.ii], which acts as an intermediary node, before it is forwarded to the agent terminal, *see* [1-b]. *See supra* Sections XI.A.2.d (limitation [1-a.ii]), XI.A.2.e (limitation [1-b]). A POSITA would have understood that the host server acts as an intermediary node before the audio query is transmitted to the agent terminal.

192. Accordingly, Sastry discloses or, alone or in combination with Valentine, renders obvious transmitting the recorded audio query message to a host server in a store and forward manner.

h. [8-d]: “a host server at said customer service center for assigning said audio query message to a host agent device, said host server comprising:”

193. Sastry discloses or, alone or in combination with Valentine, renders obvious [8-d] for at least the same reasons as discussed above in connection with [1-a.ii], which recites “a host server,” and [1-b], which recites “said host server configured to ... assign the stored audio query message to said host agent device.” *See supra* Sections XI.A.2.d (limitation [1-a.ii]), XI.A.2.e (limitation [1-b]). Sastry also discloses that the host server is at the “web-based call center 10.” Sastry, 4:10-11, FIG. 2.

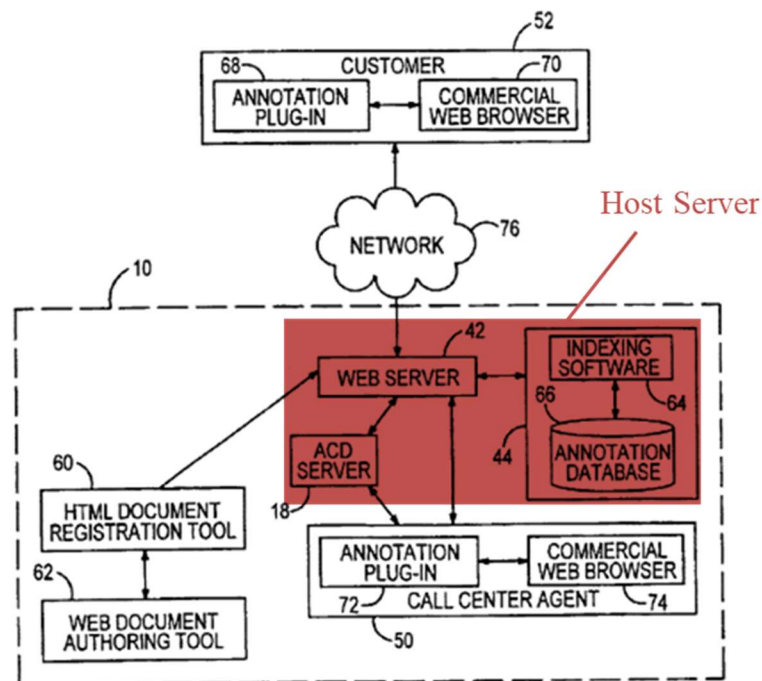


FIG. 2

Id., FIG. 2 (annotated).

- i. **[8-d.i]: “an agent client application on said host agent device configured to receive and playback said audio query message;”**

194. Sastry discloses [8-d.i] for at least the same reasons it discloses [1-b] and [1-c]. *See supra* Sections XI.A.2.f (limitation [1-c]) (explaining that Sastry’s agent annotation application discloses an agent client application on said host agent device), XI.A.2.e (limitation [1-b]) (explaining that the host server distributes the annotated web document with the customer’s audio query to the agent to review and formulate a response); *see also* Sastry, 6:40-45 (noting that the agent annotation application enables the agent to “play back dynamically annotated web documents”), 7:11-20 (noting that the agent receives the customer’s audio query and determines “the most effective way to respond.”).

- j. **[8-d.ii]: “said agent client application configured to locally record said audio response message; and”**

195. Sastry discloses [8-d.ii] for at least the same reasons it discloses [1-c], which recites “an agent client application on said host agent device configured to record ... a response to the user client application.” *See supra* Section XI.A.2.f. The agent annotation application enables local recording for at least the reasons provided in [1-a.i] as to how the customer annotation applications enables local recording. *See supra* Section XI.A.2.c; *see also supra* Section XI.A.2.f (limitation [1-c]) (explaining the similarities between the customer annotation application and the

agent annotation application); Sastry, Abstract (“An annotation server includes a database for storing annotated documents received from agent and customer terminals.”); 6:48-57 (“The [agent-side] plug-in software has several Graphical User Interface (GUI) buttons, including RECORD to record a session ... and UPLOAD to upload a session to the annotation server 44.”).

k. [8-d.iii]: “said agent client application configured to transmit said audio response message from said host server to said user device.”

196. Sastry discloses [8-d.iii]. Sastry discloses that the agent client application is configured to transmit the audio response message to the user device for at least the same reasons as discussed above regarding [1-c], which recites “an agent client application on said host agent device configured to ... transmit a response to the user client application.” *See supra* Section XI.A.2.f; *see also supra* Section XI.A.2.b (limitation [1-a]) (explaining that the user client application is on the user device).

197. Moreover, in Sastry, the agent’s response is also sent to Sastry’s host server first, *see* [1-a.ii], before being transmitted to the customer terminal. Sastry, Abstract; *see id.*, 2:19-25, 3:11-13, 6:54-55, 7:33-35, 7:65-8:1; *supra* Section XI.A.2.d (explaining that the web server receives the annotated web documents from the agents).

198. Accordingly, Sastry discloses that the agent annotation application is configured to transmit the annotated web document from the host server to the customer terminal.

199. Accordingly, Sastry discloses or, alone or in combination with Valentine, renders obvious claim 8.

9. Independent Claim 9

- a. **[9-P]: “A computer program product comprising computer executable instructions embodied in a non-transitory computer-readable storage medium, wherein said computer program product comprises:”**

200. To the extent the preamble is limiting, Sastry discloses or, alone or in combination with Valentine, renders obvious [9-P].

201. Sastry discloses or renders obvious a “computer program,” as claimed [9-P], within the context of the ’787 patent. The ’787 patent does not use the phrase “computer program product” outside of the claims. The specification, however, describes a “Blurt software component,” which includes three “core elements”: a Blurt Client at the user device, an intermediary Blurt Server, and a Blurt Agent at the agent device. ’787 patent, 6:38-40, 7:21-41, FIG. 2; *see id.*, 7:5-20. Based on my review of the ’787 patent, I understand the Blurt software component to correspond to the claimed “computer program product.”

202. Sastry’s customer annotation application (*see* [1-a], [1-a.i], [1-a.ii]) is similar to the Blurt Client as both are software that enable users to create audio

messages on a user device and transmit the messages to a server. *See supra* Sections XI.A.2.b (limitation [1-a]), XI.A.2.c limitation [1-a.i]), XI.A.2.d (limitation [1-a.ii]); '787 patent, 7:6-10, FIG. 1 (showing a Customer PC 10); *see* '787 patent, 7:22-24. Sastry's host server includes software to perform server-side functionality (*see* [1-a.ii] and [1-b]) that is similar to the Blurt Server software as both assign and distribute messages to an agent. *See supra* Sections XI.A.2.d (limitation [1-a.ii]), XI.A.2.e (limitation [1-b]); '787 patent, 7:10-12; *see* '787 patent, 7:30-32. Lastly, Sastry's agent annotation application (*see* [1-c]) is similar to the Blurt Agent, as both are software that enable agents to record audio messages responding to users and transmit messages to users via a server. *See supra* XI.A.2.f; '787 patent, 7:12-20, FIG. 1 (showing an Agent PC 40'); *see* '787 patent, 7:32-41.

203. Thus, Sastry's customer annotation application, host server software, and agent annotation application correspond to the core elements of '787 patent's Blurt software component and disclose the claimed "computer program product."

204. Sastry discloses or, alone or in combination with Valentine, renders obvious a non-transitory computer-readable storage medium. *See supra* Section XI.A.8.b (limitation [8-a]). A POSITA would have understood that these applications and software provide computer-executable (or computer-parsable) coded instructions stored in non-transitory storage that enable a processor in a computing device to perform specific functions, *see* [8-c], including those discussed

in the following sections. *See supra* Section XI.A.8.d (limitation [8-c]); *infra* Sections XI.A.9.b-XI.A.9.f (limitations [9-a] through [9-c]).

205. Accordingly, Sastry discloses or, alone or in combination with Valentine, renders obvious a computer program product comprising computer executable instructions embodied in non-transitory computer-readable storage mediums.

b. [9-a]: “a first computer parsable program code on a user device configured to:”

206. Sastry discloses [9-a] for at least the same reasons it discloses [1-a], which recites “a user client application on a user device, said user client application configured to.” *See supra* Section XI.A.2.b (describing Sastry’s customer annotation application). A POSITA would have understood that the customer annotation application is “computer parsable program code” for the reasons noted in [8-c] explaining that the customer annotation application is computer parsable program code. *See supra* XI.A.8.d.

c. [9-a.i]: “locally record and store an audio query message of a user on said user device; and”

207. Sastry discloses [9-a.i] for at least the same reasons it discloses [1-a.i], which recites “locally record and store an audio query message of said user on said user device.” *See supra* Section XI.A.2.c.

- d. [9-a.ii]: “transmit said recorded audio query message to a host server by a user client application on the user device;”**

208. Sastry discloses or, alone or in combination with Valentine, renders obvious [9-a.ii] for at least the same reasons discussed in connection with [1-a.ii], which recites “[a user client application on a user device configured to] transmit said recorded audio query message to a host server.” *See supra* Section XI.A.2.d (limitation [1-a.ii]); *see also supra* Section XI.A.2.b (limitation [1-a]) (describing the user client application in Sastry).

- e. **[9-b]: “a second computer parsable program code on said host server configured to receive, distribute and assign said stored audio query message to said host server device; and”**

209. Sastry discloses or, alone or in combination with Valentine, renders obvious [9-b] for at least the same reasons discussed in connection with [1-a.ii], which recites “a host server” and [1-b], which recites “said host server configured to receive, distribute and assign the stored audio query message to said host agent¹ device.” *See supra* Sections XI.A.9.a (limitation [9-P]), XI.A.2.d (limitation [1-a.ii]), XI.A.2.e (limitation [1-b]).

210. Sastry also discloses that the host server is at the “web-based call center.” Sastry, 4:10-11, FIG. 2. As explained in [9-P], Sastry discloses or, alone or

¹ I note that [9-b] recites that the “code *on said host server*” is configured to “distribute and assign said stored audio query message to said *host server* device.” I have interpreted “said *host server* device” to refer to the “host *agent* device” recited elsewhere in claim 9. That interpretation is consistent with the disclosures of the ’787 patent, which consistently discloses distributing and assigning messages to the *agents* and/or *agent* devices. ’787 patent, 7:10-12, 7:30-32, 7:51-58, 8:51-54, 9:33-40, 10:26-30, 11:51-56. In contrast, the ’787 patent does not disclose the host server distributing and assigning messages to a “host server device.”

in combination with Valentine, renders obvious server-side software at the host server to perform server-side functionality. *See supra* Section XI.A.9.a. A POSITA would have understood that this software is “computer parsable program code” for the reasons noted in [8-c] explaining that the customer annotation application is computer parsable program code. *See supra* XI.A.8.d.

- f. [9-c]: “a third computer parsable program code on a host agent device configured to record and transmit a response to the user client application of said audio query generating user.”**

211. Sastry discloses [9-c] for at least the same reasons it discloses [1-c], which recites “an agent client application on said host agent device configured to record and transmit a response to the user client application.” *See supra* Section XI.A.2.f. A POSITA would have understood that Sastry’s agent annotation application is “computer parsable program code” for the reasons noted in [8-c] explaining that the customer annotation application is computer parsable program code. *See supra* Sections XI.A.9.a (limitation [9-P]), XI.A.8.d (limitation [8-c]).

10. Independent Claim 10

- a. [10-P]: “An electronic device of a user, said electronic device comprising:”**

212. Sastry discloses [10-P] for the reasons provided in [1-a] and [8-P]. *See supra* Sections XI.A.2.b (limitation [1-a]) (showing that Sastry’s “customer terminal” is a “user device”), XI.A.8.a (limitation [8-P]) (explaining that the

customer terminal is an electronic computing device); *see* Sastry, Abstract, 6:35-55, FIG. 2.

b. [10-a]: “a non-transitory computer readable storage medium configured to store a client application;”

213. Sastry discloses or, alone or in combination with Valentine, renders obvious [10-a] for at least the same reasons discussed above in connection with [8-a], which recites “a first non-transitory computer readable storage medium configured to store a user client application.” *See supra* Section XI.A.8.b.

c. [10-b]: “at least one processor communicatively coupled to said non-transitory computer readable storage medium, said at least one processor configured to execute said client application;”

214. Sastry discloses or, alone or in combination with Valentine, renders obvious [10-b] for at least the same reasons discussed above in connection with [8-b], which recites “at least one first processor communicatively coupled to said first non-transitory computer readable storage medium, said at least one processor configured to execute said user client application.” *See supra* Section XI.A.8.c.

d. [10-c]: “at least one input device communicatively coupled to said processor, wherein said input device comprises a microphone; and”

215. Sastry discloses or, alone or in combination with Valentine, renders obvious [10-c].

i. Sastry (Grounds 1A/1B)

216. Sastry discloses “recording voice” information using the customer annotation application on the customer terminal. *See supra* Sections XI.A.2.b (limitation [1-a]), XI.A.2.c (limitation [1-a.i]).

217. A POSITA would have understood or found it obvious that, to receive and record the customer’s voice, the customer terminal includes a microphone input device that captures voice information and converts the soundwaves of the received voice to electrical signals that can be recorded, stored, and transmitted. Indeed, it was well known in the art to use an internal or external microphone to obtain voice recordings (*see e.g.*, Valentine ¶¶26, 33), and Sastry’s customer terminal is already configured to include other input devices, such as a “mouse” for “directing a pointer icon.” Sastry, 8:32-35.

218. Moreover, a POSITA would have further understood or found it obvious that the microphone is communicatively coupled to the processor (*see supra* [10-b]) so that when a user selects an option to record audio, the processor can enable Sastry’s customer terminal to begin capturing the audio via the microphone. *See supra* Sections XI.A.10.c (limitation [10-b]), XI.A.2.c (limitation [1-a.i]).

219. To the extent it is determined that Sastry does not disclose a microphone input device, it would have been obvious to modify Sastry to include a microphone input device to receive and record the customer’s voice.

220. A POSITA would have been motivated to incorporate a microphone into Sastry's customer terminal to provide an explicit way to perform functionality disclosed in Sastry, i.e., capturing and recording voice information. A POSITA would have been further motivated to make the proposed combination because using microphones to capture voice is well-known in the art, as explained above. *See e.g.*, Valentine ¶¶26, 33.

221. Making such a modification simply combines prior art elements (Sastry's system using a computer that records audio and conventional systems using a computer that records audio using a microphone, *see* Valentine ¶¶26, 33) according to known methods to yield predictable results (enabling user devices to record audio, as Sastry discloses). It is also a simple substitution of one known element (a conventional computer with a microphone to record audio, *see* Valentine ¶¶26, 33) for another (Sastry's computer to record audio) to obtain predictable results. This modification is also using a known technique (using a microphone as a computer input device to capture audio during recording, as was well known in the art, *see* Valentine ¶¶26, 33) to improve similar devices (computers used to record audio, as disclosed in Sastry) in the same way (to capture sound to record).

222. In this system, the microphone is communicatively coupled to the processor for the reasons noted above.

ii. Sastry and Valentine (Ground 1C)

223. To the extent it is argued that Sastry does not disclose or render obvious a microphone input device communicatively coupled to a processor, Valentine does.

224. For example, Valentine discloses that initiating device 21 includes a processor (*see* [8-b]) and a “microphone” that can be “internal or external to the initiating device 21.” Valentine ¶33; *see id.* ¶¶26, 55 (disclosing “one or more input devices”); *supra* Sections XI.A.8.c (limitation [8-b]). The microphone is an input device used to “capture sound” when a user presses “record” on a recorder applet 22 to record audio. *Id.* (“applet 22 can utilize ... Java Native Interface (JNI) to ... capture sound from the microphone”). A POSITA would have further understood that the microphone is communicatively coupled to the processor so that when a user selects an option to record audio, the processor can enable the Valentine’s initiating device to begin capturing the audio via the microphone. *See supra* Section XI.A.10.d.i (limitation [10-c], Ground 1A/1B).

225. A POSITA would have found it obvious to combine Sastry’s and Valentine’s teachings and modify Sastry’s customer terminal to incorporate Valentine’s microphone. Sastry discloses locally recording voice information on a customer terminal but does not provide details on how the voice is captured. *See supra* Section XI.A.2.c (limitation [1-a.i]). Valentine similarly discloses an initiating device 21 that captures sound and provides implementation details explaining that

sound is captured using a microphone that is “internal or external” to the initiating device. Valentine ¶33. Thus, a POSITA would have been motivated to incorporate Valentine’s teachings into Sastry’s system to provide an explicit way to capture the voice that is recorded in Sastry—i.e., using a microphone, especially given that it was well known in the art to use microphones in this manner. Further, Sastry’s customer terminal is already configured to include other input devices, which a POSITA would have recognized as indicating a reasonable expectation that the combination would succeed.

226. Making such a modification is simply combining prior art elements (Sastry’s system using a computer that records audio and Valentine’s microphone that is used in a system using a computer that records audio) according to known methods to yield predictable results (user devices that record audio, as both Sastry and Valentine disclose). This modification is also using a known technique (using a microphone as an input device to capture audio during recording, as Valentine discloses) to improve similar devices (a computer used to record audio, as Sastry discloses) in the same way (to capture sound to record). It is also a simple substitution of one known element (Valentine’s computer with a microphone to record audio) for another (Sastry’s computer to record audio) to obtain predictable results (user devices that record audio, as both Sastry and Valentine disclose).

227. Accordingly, Sastry in combination with Valentine renders obvious [10-c].

228. Thus, Sastry discloses or, alone or in combination with Valentine, renders obvious [10-c].

e. [10-d]: “said client application configuring said at least one processor to:”

229. Sastry discloses [10-d] for at least the same reasons it discloses [8-c], which recites “said user client application configuring said processor to.” *See supra* Section XI.A.8.d.

f. [10-d.i]: “locally record an audio query message received through said microphone;”

230. Sastry discloses or, alone or in combination with Valentine, renders obvious [10-d.i] for the reasons provided in [1-a.i], which recites “locally record and store an audio query message of said user on said user device,” and [10-c], which recites “... said input device comprises a microphone.” *See supra* Sections XI.A.2.c (limitation [1-a.i]), XI.A.10.d (limitation [10-c]) (explaining that Sastry discloses, alone or in combination with Valentine, renders obvious that the customer terminal includes a microphone input device to receive “voice” input from the customer for voice recording). A POSITA would have further understood that locally recording the audio query message in Sastry would have been through the microphone, as the microphone receives voice input for recordings.

g. [10-d.ii]: “store said recorded audio query message on said electronic device; and”

231. Sastry discloses [10-d.ii] for the reasons provided in [1-a.i], which recites “... store an audio query message of said user on said user device.” *See supra* Section XI.A.2.c; *see also supra* Section XI.A.10.a (limitation [10-P]) (showing that Sastry discloses an electronic device).

h. [10-d.iii]: “transmit said stored audio query message.”

232. Sastry discloses [10-d.iii] for the reasons provided in [1-a.ii], which recites “transmit said recorded audio query message to a host server.” *See supra* Section XI.A.2.d (explaining that, after creating the annotated web document (and storing it on the customer terminal), the customer in Sastry uses the customer annotation application to upload the document to a server in the call center).

233. Accordingly, Sastry discloses or, alone or in combination with Valentine, renders obvious claim 10.

B. Grounds 2A/2B: Sastry and Boies (2A) or Sastry, Valentine, and Boies (2B) Render Obvious Claim 3

1. Motivation to Combine

234. A POSITA would have found it obvious to combine Sastry and Boies or Sastry, Valentine, and Boies. Sastry, Valentine, and Boies disclose substantially similar and complementary methods for controlling network communications. *See supra* Section XI.A.1 (providing an overview of Sastry’s and Valentine’s systems).

235. Similar to Sastry and Valentine, Boies discloses systems and methods for a coordinating server that acts as an intermediary for a connectionless messaging exchange between a user and service provider, Boies, Abstract, ¶36, to help match a user bidding on services with a provider offering those services. *Id.*, Abstract (noting the server is “seamlessly coupled” to users and providers “via a network, e.g., Internet”); *see id.* ¶11, 18, FIGS. 1, 4A. In Boies, prior to user submitting bids for provider services, a provider “prepares an electronic template for available services and transmits them to the server.” *Id.* ¶36; *see id.* ¶¶34-35. The server distributes the template to users so the users can prepare a “respons[e]” template providing an offer for certain services consistent with the received template. *Id.*

236. A POSITA would have found it obvious to combine Sastry, Valentine, and Boies. All three references are analogous art, belonging to the same field of endeavor as the ’787 patent and each other: systems and methods for connectionless messaging using servers as intermediaries. *See supra* Section XI.A.1 (providing an overview of the ’787 patent system). Sastry, Valentine, and Boies are also reasonably pertinent to one of the problems the inventor of the ’787 patent allegedly faced: delay in connection-based messaging systems. *Id.* Sastry, Valentine, and Boies address similar problems. *Id.*; Boies ¶4 (noting the drawbacks of serving users on a “first come first serve[]” basis); *see id.* ¶36.

237. Thus, Sastry, Valentine, and Boies are analogous art to each other and to the '787 patent. Given that Sastry, Valentine, and Boies disclose similar systems that operate in a similar manner and are directed to similar and related problems, a POSITA would have been generally motivated to consider the teachings of Boies to modify Sastry or the Sastry-Valentine combination.

238. Additional considerations supporting a POSITA's motivation to combine Sastry and Boies or Sastry, Valentine, and Boies are provided below in connection with Claim 3.

2. Claim 3: “The method of claim 1, wherein said host server comprises Java servlets, Enterprise Java Bean component, a web and application server and a generic database technology.”

239. Sastry and Boies (Ground 2A) or Sastry, Valentine, and Boies (Ground 2B) render obvious claim 3.

240. Sastry's host server (*see* [1-a.ii]) incorporates the functionalities of a “web server” that accepts requests from customer and agent terminals for accessing web documents from the server. *See supra* Section XI.A.2.d.

241. Sastry's host server also incorporates the functionalities of an application server. *See supra* Section XI.A.2.d (limitation [1-a.ii]). The host server includes a compilation of software components running on generic hardware for performing the server-side functions described in Sastry, including receiving, distributing, and assigning the recorded audio query message. *Id.* Based on this

functionality, a POSITA would have understood that the host server includes an application server that facilitates the functions these software components perform.

242. Sastry's host server includes generic database technology, as it implements "commercial relational database technology" to store uploaded web documents. Sastry, 5:62-6:3; *see id.*, Abstract. A POSITA would have understood that Sastry's host server's database stores and provides access to data in a relational form—i.e., in a form that shows how the data is related, which a POSITA would have understood constitutes generic technology used in commercial database environments at the time of the invention. Thus, a POSITA would have understood that Sastry discloses a host server comprising generic database technology.

243. Sastry does not expressly disclose that the host server includes Java servlets and an Enterprise Java Bean component, but Boies discloses both. Boies' coordination server (*see supra* Section XI.B.1) uses "Java Servlets," Boies ¶21, and a "Enterprise Java Bean (EJB)" component to facilitate the server functionality. *Id.* ¶24; *see id.* ¶¶25-26.

244. It would have been obvious to a POSITA to combine Sastry with Boies to produce a combined system to modify Sastry's host server to utilize Java Servlets and Enterprise Java Bean Components. Indeed, Sastry discloses using Java code for its web documents to capture a user's multimedia actions when annotating such documents. Sastry, 2:41-53; *see id.*, 2:34-41, 4:60-67, 6:45-48, 6:61-65. Boies

explains how to develop servers using Java processing, including using Java Servlets to respond to requests from user devices and Enterprise Java Bean components to handle the business logic and server-side functionality. Boies ¶¶21, 24-26. A POSITA would have been motivated to modify Sastry with Boies' teachings in this manner because it provides the technical details to a POSITA required to implement Sastry's inventions, as Sastry expressly discloses using Java for specific aspects of its own system, thus motivating a POSITA to develop other aspects, including server-side operations and architecture, using Java principles to ensure compatibility. *See* Sastry, 4:60-67, 2:41-53 (collectively teaching the use of Java code to enable the web documents to capture a user's multimedia actions, including voice data, when annotating such documents); *see id.*, 2:34-41, 6:45-48, 6:61-65.

245. Moreover, it was well known that Java Servlets and Enterprise Java Bean Components were fundamental Java server-side components that enable a platform to be robust and scalable, as required for enterprise solutions, which Sastry is. *See* Barish (Ex. 1008), 49-51; Sastry, 6:1 (noting use of "commercial" database technology). Making such a modification is simply combining prior art elements (Sastry's system that utilizes Java-based documents and Boies' use of a Java-based server and associated elements) according to known methods (implementing Java system architecture) to yield predictable results (using a Java-based intermediary for connectionless messaging between two devices, as Boies discloses). It is also a

simple substitution of one known element (Boies' Java-based server) for another (Sastry's host server) to obtain predictable results (a system that maximizes its use of Java to ensure compatibility across system components). This modification is also using a known technique (developing a host server using Java components, as Boies discloses) to improve similar devices (intermediary servers disclosed in Sastry and Boies) in the same way (to maximize compatibility, ensure operational reliability, and avoid costs from attempting to incorporate and maintain different technologies).

C. Ground 3A/3B: Valentine Anticipates or Renders Obvious Claim 10

246. Valentine anticipates claim 10 (Ground 3A) or renders claim 10 obvious (Ground 3B).

1. Independent Claim 10

a. [10-P]: "An electronic device of a user, said electronic device comprising:"

247. Valentine discloses [10-P]. Valentine discloses that "an internet user can access the internet using ... an initiating device 21." Valentine ¶26 (describing the device as a "microprocessor-based system," such as a "PC workstation" or "cellular phone"). The device is used to "post[] electronic information." *Id.* ¶5. Thus, a POSITA would have understood that initiating device 21 is an electronic user device.

b. [10-a]: "a non-transitory computer readable storage medium configured to store a client application;"

248. Valentine discloses [10-a].

249. Valentine discloses a “client application.” Specifically, Valentine discloses a “recorder applet,” Valentine ¶33, which operates on a web browser and presents users a GUI with controls to “record, stop, preview, pause, and save a spoken audio clip or audio data that the user can record by speaking into a microphone.” *Id.* ¶21, FIG. 1; *see id.*, Abstract, ¶¶16, 27, 29, 32-35. Figure 1 shows that the recorder applet is on the initiating device, *id.*, FIG. 1, and the device is also “equipped with” an Internet browser. *Id.* ¶27. A POSITA would have understood that, given Valentine’s disclosures, both the recorder applet and web browser are stored on the initiating device.

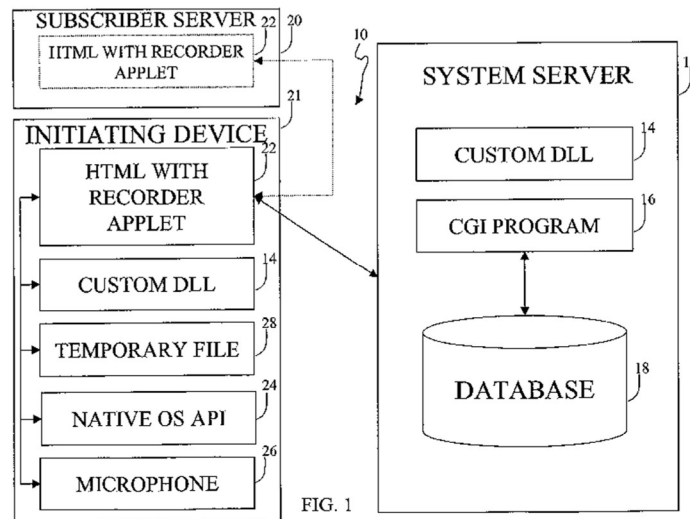


FIG. 1

Valentine, FIG. 1.

250. Valentine's recorder applet, alone or in combination with the web browser, is a "client application" within the context of the '787 patent. *See* Section XI.A.2.b (limitation [1-a], Ground 1).

251. The '787 patent does not use the phrase "user client application" outside of the claims. The specification, however, describes a "browser-resident recorder application" (or a slight variation thereof) used on a customer PC. *See e.g.*, '787 patent, Abstract, FIG. 1. Based on my review of the '787 patent, I understand this recorder application to correspond to the claimed client application.

252. Valentine's recorder applet is similar to the '787 patent's recorder application. For example, recorder applet enables the initiating device to record a "spoken audio clip or audio data" that a user speaks into the device's microphone. Valentine ¶21, FIG. 1 (showing Microphone 26). The '787 patent's recorder application likewise "provide[s] a voice message driven customer interaction queuing system that enables" customers to record questions via a microphone to send to customer service agents. '787 patent, 4:57-60, Abstract, 10:12-15, FIGS. 1-2; *see also id.*, 4:4-10, 4:37-45.

253. Valentine's recorder applet also functions similarly to the '787 patent's recorder application. Like the recorder application, when Valentine's recorder applet is "activate[d]" on a website, it enables website users to record audio. Valentine ¶21; *see id.* ¶¶24, 42-45. The '787 patent similarly explains that the recorder application

“can be used *to voice-enable* web pages ... allowing web page visitors to utter questions into a browser-resident recorder/player application akin to a Walkie-Talkie.” ’787 patent, 4:4-7 (emphasis added), *see also id.*, 1:29-34; *supra* Section XI.A.2.b (limitation [1-a], Ground 1). Thus, Valentine’s recorder applet, alone or in combination with the web browser with which it operates, corresponds to, and teaches the ’787 patent’s “browser-resident recorder/player application.”

254. Moreover, a POSITA would have understood that Valentine’s recorder applet, alone or in combination with the web browser with which it operates, discloses an application consistent with the common understanding of an “application,” which is a software program for performing a task or function. *See, e.g.*, Ex. 1010, 76; Ex. 1011, 27; Ex. 1012, 46; Barish (Ex. 1008), 2. The recorder applet is a software program that performs specific tasks or functions, including those discussed in the following sections. *See infra* Sections XI.C.1.f-XI.C.1.h (limitations [10-d.i], [10-d.ii], and [10-d.iii], all in Ground 3).

255. Accordingly, it is my opinion that a POSITA would have understood that Valentine’s recorder applet, alone or in combination with Valentine’s browser, is a “client application” in the context of the ’787 patent. Below, I refer to Valentine’s recorder applet, alone or in combination with Valentine’s browser, as Valentine’s “recorder applet application.”

256. Moreover, Valentine discloses “a non-transitory computer readable storage medium configured to store” the recorder applet application. Valentine’s systems, including initiating device 21, include “a computer-readable storage medium,” Valentine ¶57, which is “non-volatile.” *Id.* ¶55; *see id.* ¶56. A POSITA would have understood that Valentine’s non-volatile storage retains data over time and, thus, constitutes non-transitory storage. Moreover, Valentine’s methods are “implemented in one or more computer programs,” *id.* ¶55, which are “stored” on the non-transitory storage. *Id.* ¶57. A POSITA would have understood that the recorder applet application is one of the computer programs stored in non-transitory storage to allow users to use the applet at their convenience to record audio messages.

257. Accordingly, Valentine discloses an initiating device with non-transitory computer readable storage medium configured to store the recorder applet application (“client application”).

- c. **[10-b]: “at least one processor communicatively coupled to said non-transitory computer readable storage medium, said at least one processor configured to execute said client application;”**

258. Valentine discloses [10-b].

259. Valentine’s non-transitory storage (*see supra* [10-a], Ground 3) is “readable by [a] processor” and, thus, communicatively coupled to the processor. Valentine ¶55; *see supra* Section XI.C.1.b. Valentine explains that the initiating

device is a “microprocessor-based [computer] system” that includes “[computer] program[s] for organizing and controlling the initiating device 21 to operate as described” throughout Valentine. Valentine ¶26. A POSITA would have understood Valentine’s processor executes the computer programs to organize and control operations on the initiating device, including, for example, executing the recorder applet application to enable a user to record an audio message on the device. *See supra* Section XI.C.1.b (limitation [10-a], Ground 3) (explaining that the recorder applet application is one of Valentine’s computer programs).

260. Accordingly, Valentine discloses a processor communicatively coupled to said non-transitory computer readable storage medium and configured to execute the recorder applet application.

d. [10-c]: “at least one input device communicatively coupled to said processor, wherein said input device comprises a microphone; and”

261. Valentine discloses [10-c].

262. Valentine discloses that initiating device 21 includes a processor (*see* [10-b], Ground 3) and a “microphone” that can be “internal or external to the initiating device 21.” Valentine ¶33; *see id.* ¶¶26, 55 (disclosing “one or more input devices”); *supra* Section XI.C.1.c. The microphone is an input device used to “capture sound” when a user presses “record” on the recorder applet application to record audio. *Id.* ¶¶33 (“applet 22 can utilize ... Java Native Interface (JNI) to ...

capture sound from the microphone”), 26. A POSITA would have understood that the processor “organiz[es]” and “control[s]” the initiating device to perform various operations, including capturing and recording audio via the microphone when a user presses “record” on the recorder applet. *See id.* ¶26. Thus, a POSITA would have further understood that the microphone is communicatively coupled to the processor so that when a user selects an option to record audio, the processor can enable Valentine’s initiating device to begin capturing the audio via the microphone. *See supra* Section XI.C.1.c (limitation [10-b], Ground 3).

263. Accordingly, Valentine discloses a microphone input device communicatively coupled to Valentine’s processor.

e. [10-d]: “said client application configuring said at least one processor to:”

264. Valentine discloses [10-d].

265. Valentine’s processor executes the recorder applet application. *See supra* Section XI.C.1.c (limitation [10-b], Ground 3). A POSITA would have understood that an application (e.g., Valentine’s recorder applet application) provides a set of computer-executable (or computer-parsable) coded instructions that enable a processor in a computing device (e.g., the processor of Valentine’s initiating device) to perform specific functions, including those discussed in the following sections. *See infra* Sections XI.C.1.f-XI.C.1.h (limitations [10-d.i], [10-d.ii], [10-d.iii], all in Ground 3).

266. Accordingly, Valentine's recorder applet application configures the processor to perform specific functions.

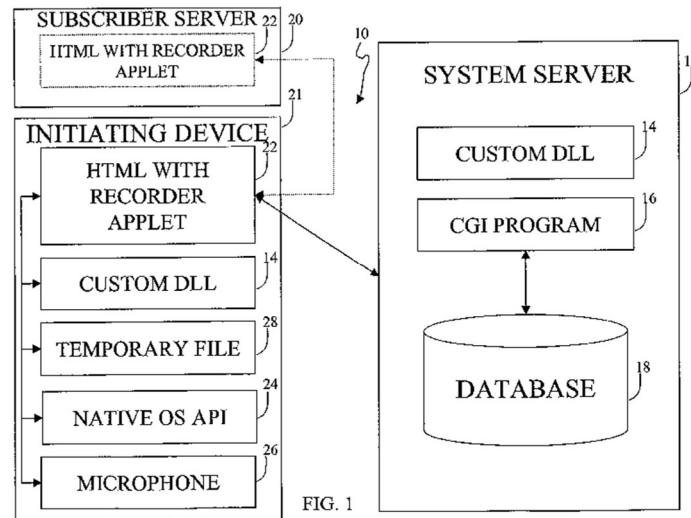
f. [10-d.i]: "locally record an audio query message received through said microphone;"

267. Valentine discloses limitation [10.d.i] (Ground 3A) or renders this limitation obvious (Ground 3B).

268. Valentine discloses local recording of an audio message received through a microphone. Valentine's recorder applet application on the initiating device records a "spoken audio clip or audio data that the user can record by speaking into a microphone." Valentine ¶21; *see id.* ¶¶26, 33 (recorder applet application provides GUI with "record" button and initiating device includes "microphone" to "capture sound"), 34, 48.

269. The message is locally recorded. Valentine explains that the user records the message on the recorder applet application, which is a "native" application on the initiating device, *id.* ¶¶18, 33, and then stores the message in a "temporary file 28 in local memory of the initiating device 21" after recording. *Id.* ¶33. Moreover, the application is locally stored on the initiating device itself. *Id.*, FIG. 1 (showing "recorder applet 22" on initiating device 21); *see id.* ¶32 (explaining that the custom dll, which Figure 1 also shows as part of the initiating device, is "stored within the local memory of the initiating device," indicating the same for the "recorder applet 22"). A POSITA would have understood these disclosures—that

both the recorder applet application and recorded message are stored on the initiating device—to show that Valentine’s recorder applet application locally records audio messages.



Valentine, FIG. 1.

270. Valentine’s recorded audio message is a “query” message. In Valentine, “one user can post an audio message to the group” and “another user can thereafter listen to the audio message and reply to it by creating another audio message.” *Id.* ¶20. Valentine provides two examples of these connectionless user exchanges: first, Valentine describes users in a “threaded discussion group” discussing “entertainment and information in an audio form” (*id.*); second, Valentine describes implementing its invention in “a web page that can be utilized for auctions, or ... for presenting items for sale, etc.,” enabling users to “generat[e] an audio file for association with the [sale] item.” *Id.* ¶48.

271. A POSITA would have understood that threaded discussion groups or online sales in which users record and exchange audio messages would include messages of all kinds, including statements and/or questions, to other users about various topics, such as “entertainment,” product details and features, sales price, etc. *See id.* ¶¶20, 48. A POSITA would have been familiar with “threaded” discussion groups and “sales” or “auctions” and would have recognized that such environments would include back-and-forth communications, including users posing questions (or queries) as part of the ongoing discussion or sale in hopes to receive answers and responses.

272. To the extent it is argued that Valentine does not disclose that its audio messages are “audio query messages,” the only difference would be the content of the data that is being transferred. This difference would not require any modification to Valentine’s system and make such difference obvious. And even if it did, it would have been obvious to a POSITA to modify Valentine’s system to record query messages using the recorder applet application. Indeed, Valentine discloses users recording audio messages to post on “threaded discussion groups” to “exchange entertainment and information” or during sales or auctions to advertise products and, presumably, ask questions about listed products. *See Valentine* ¶¶20, 48. A POSITA would have been motivated to modify the ability to record audio messages to post on “threaded discussion groups” or at sales or auctions, as Valentine discloses (*id.*

¶¶20, 48), to record audio query messages to expand how Valentine's invention can be utilized, thereby providing additional user benefits. For example, it was known in the art that a POSITA could implement Valentine's invention in a teacher-student environment in which a "student can transmit questions about an exam or an assignment" in an audio request and the "instructor can respond" with an audio response, as evidenced at least by Sastry. *See* Sastry, 9:30-40.

273. Making such a modification is simply applying prior art elements (Valentine's system enabling users to record audio messages about entertainment, information, and products for sale) according to known methods to yield predictable results (enabling users to also record audio with questions or queries). It is also a simple substitution of one known element (using Valentine's system to record audio about "entertainment[,] information," and products for sale) for another (using the same system to also record audio asking questions or queries) to obtain predictable results (connectionless exchange of audio messages that include questions or queries instead of only messages about "entertainment[,] information," and products for sale). This modification is also using a known technique (enabling users to record audio questions or queries) to improve similar devices (Valentine's system that enables users to record audio regarding "entertainment[,] information," and products for sale) in the same way.

274. Accordingly, Valentine discloses or renders obvious locally recording audio query messages through a microphone.

g. [10-d.ii]: “store said recorded audio query message on said electronic device; and”

275. Valentine discloses [10-d.ii] for at least the same reasons provided in [10-d.i]. *See supra* Section XI.C.1.f (limitation [10-d.i], Ground 3); Valentine ¶33 (noting that the recorder applet application “capture[s] sound from the microphone” and “store[s] the audio stream in a temporary file 28 in local memory of the initiating device 21.”).

h. [10-d.iii]: “transmit said stored audio query message.”

276. Valentine discloses [10-d.iii]. Valentine explains that, after storing the recorded message on the initiating device, the message is “transmit[ted]” to the “system server 12.” Valentine ¶33 (“The GUI can include buttons to ... transmit (‘save’) an audio file to the system server 12.”); *see id.* ¶32. Accordingly, Valentine discloses transmitting the stored message.

XII. CONCLUSION

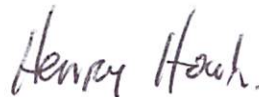
277. For the reasons set forth in Section XI, it is my opinion that one skilled in the art would have found claims 1-10 of the '787 patent to be anticipated or obvious.

278. 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.

279. I declare that all statements made herein of my knowledge are true, and 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.

Date: August 13, 2024

Respectfully submitted,

A handwritten signature in cursive script that reads "Henry Houh".

Henry Houh, PhD