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U.S. Patent 8,825,787

U.S. Patent 8,825,787 (“*Songbird Tech*” or the “patent-at-issue”) was filed on May 21, 2013 and claims priority on March 8, 2002. Claim 1 of the patent-at-issue is directed to a method for connectionless exchange of electronic messages between a user and a customer service center's host agent. It involves a user client application on a user device that records and stores an audio query message locally, then transmits it to a host server. The host server receives, distributes, and assigns the stored audio query message to a host agent device. The host agent device, equipped with an agent client application, records, and transmits a response back to the user client application.

A primary reference, U.S. Patent 7,130,390 (“*Abburri*”), was filed on February 1, 2002, and claims priority on the same date. The patent discloses a system and method enabling individuals to send and receive audio messages through telephone and computer devices. When an audio message is received for an intended recipient, the system checks the recipient's user profile to determine the preferred contact method. It then notifies the recipient and delivers the audio message through either a computer or telephone device, allowing flexibility for both the sender and recipient in terms of device choice for sending and receiving audio messages.

A primary reference, U.S. Patent 6,826,407 (“*Helferich*”), was filed on September 30, 1999, and claims priority on March 29, 1999. The patent discloses a communication system that integrates audio and visual messaging. It involves a mobile communication device capable of receiving visual messages and transmitting voice messages. A base station system communicates with the mobile device, and an electronic mail gateway delivers visual messages to the base station for transmission to the mobile device. An integrated mail gateway receives a voice message and addressing information from the base station, creating an email message with the voice content. The integrated mail gateway uses the addressing information to address the email message, which is then sent to the recipient. This system facilitates the seamless integration of audio and visual messaging through mobile communication devices.

A primary reference, U.S. Patent 6,747,970 (“*Lamb*”), was filed on March 21, 2000, and claims priority on April 29, 1999. The patent discloses a telecommunications system employing Internet-based user agents operating on a hosting server to control call connections. These user agents, facilitated by a telecommunications network server, interface with both the hosting server and a public-telephone network. The hosting server, situated on a computer network, predominantly handles the functionality and performance of the user agents, supporting various advanced calling and telecommunications services. The user agent functionality may also involve user client computers depending on the specific implementation chosen.

A sample claim chart comparing claim 1 of *Songbird Tech* to *Abhuri*, *Helferich*, and *Lamb* is provided below.

US8825787 (“ <i>Songbird Tech</i> ”)	A. US7130390 (“ <i>Abhuri</i> ”) B. US6826407 (“ <i>Helferich</i> ”) C. US6747970 (“ <i>Lamb</i> ”)
1. A method for connectionless exchange of electronic messages between a user and a host agent of a customer service center , comprising:	<p>A. US7130390 “According to one aspect of the invention, a method uses an interactive voice response (IVR) system and a computer server connected to a communications network to support voice messaging between individuals accessible through telephone devices located on the network and individuals accessible through computer devices located on the network.” <i>Abhuri</i> at col. 2:18-23</p> <p>“The computer server 202 is also shown connected to the telecommunications network 212 for sending messages and notifications to and/or receiving messages from telephony devices capable of exchanging information with the computer server 202 directly using a suitable protocol, such as the wireless application protocol.(WAP).” <i>Abhuri</i> at col. 4:45-50</p> <p>11. The method of claim 1 wherein the communications network comprises a telecommunications network to which the IVR system is connected and a widely distributed computer network to which the computer server is connected, said IVR system and said computer server being connected to each other, and wherein the telephone devices are located on the telecommunications network and the computer devices are located on the widely distributed computer network. <i>Abhuri</i> at Claim 11</p> <p>B. US6826407 “In an alpha/numeric pager messaging environment, text messages are routinely exchanged between a computer and a text pager (i.e. text in/text out). In a voice pager messaging environment, voice messages are routinely exchanged between a telephone configured voice mail system and a voice pager (i.e. voice in/voice out).” <i>Helferich</i> at col.2:39-44</p> <p>“A Mobile Switching Office (MSO) 125 (also referred to as a base station) comprises all of the necessary equipment and software for enabling communications between mobile</p>

<p>(cont.)</p> <p>1. A method for connectionless exchange of electronic messages between a user and a host agent of a customer service center, comprising:</p>	<p>telephone 145 and PSTN 110 as well as data network 120.” <i>Helperich</i> at col.5:21-24</p> <p>C. US6747970</p> <p>“More specifically, according to one embodiment of the invention, the system of the invention provides a method of managing call services in a telecommunications hosting server on a connection-less network. The method comprises the steps of receiving, at a telecommunications hosting server coupled to a connectionless network, at least one call application message including a request to create at least one call connection to a telephony device coupled to a connection-based network. A user of the system may send the call application message, for example, from a user agent interface (a client or user client interface). A typical example of a call application message is one or more packets transmitted over the connectionless network between the program operating the user client interface and the user agent.” <i>Lamb</i> at col.12:17-30</p>
<p>a user client application on a user device, said user client application configured to:</p>	<p>A. US7130390</p> <p>"FIG. 3 illustrates an exemplary user device 300 for providing a voice or other audio message to the system 200 for delivery of the message to its intended recipient(s). As shown in FIG. 3, the device 300 includes a processor 302, a memory device 304 (which, itself, may comprise one or more static and/or dynamic memory elements), a user interface 306, an audio speaker 308, and a network interface 310 for interfacing the device 300 with the computer network 210 and/or the telecommunications network 212." <i>Abburri</i> at col. 8:3-11</p> <p>B. US6826407</p> <p>"The antenna 351, antenna interface 352, receiver 353, transmitter 354, processing module 355 and user interface 356 are connected in a typical mobile telephone or paging transceiver configuration. A controller 357 and memory 358 have been included for processing of received visual messages, storage of visual messages, and processing of transmitted voice messages. The controller 357 comprises a conventional microprocessor of the type commonly used in mobile telephones and paging transceivers. The controller 357 also includes a memory manager, I/O ports, RAM and ROM memory and all necessary software instructions required to communicate with the processing module 355, user interface 356, and memory 358. The controller 357 connects to the processing</p>

<p>(cont.) a user client application on a user device, said user client application configured to:</p>	<p>module 355 for receiving and sending data, messages, and commands." <i>Helferich</i> at col. 8:50-64</p> <p>C. US6747970 "In another arrangement, the call application message is provided when a user of a client computer initiates(e.g. clicks on) a hyperlink in a web browser on the client computer having a URL which causes the browser to "fetch" a web page provide by a web server. The web server may be provided within the telecommunications hosting server, or may be a separate web server serving a page to the browser of the user of the client computer." <i>Lamb</i> at col. 15:64-67 through col. 16:1-4</p>
<p>locally record and store an audio query message of said user on said user device;</p>	<p>A. US7130390 "According to another aspect of the invention, an apparatus for recording and sending audio messages to one or more remote devices includes a processor, a memory device, computer instructions stored in the memory device, a microphone, and an interface to a communications network. The computer instructions configure the processor to record in an audio file, in response to input from a user, an audio message provided by the user to the microphone, and to transfer the audio file in which the audio message is recorded to the communications network via said interface, whereby the audio message recorded in the audio file may be transmitted through the communications network for delivery to said one or more remote devices." <i>Abburri</i> at col. 2:45-57</p> <p>"The user interface 306 includes, for example, a microphone 312 by which a user can input a spoken or other audio message for recording. In one embodiment, the microphone 312 is also used to receive spoken instructions from the user, with the processor 302 configured to implement speech recognition functionality using suitable computer-executable instructions stored in the memory device 304. The user interface 306 may also include, as desired, an alphanumeric keypad, a touch screen, a visual display with menu buttons, a mouse, a keyboard and/or any other user input device necessary or desirable for a given application of the device 300." <i>Abburri</i> at col. 8:11-22</p> <p>B. US6826407 "Referring now to FIG. 2C, there is shown a routing map illustrating a voice message path from paging transceiver 140 to messaging device 105(2), wherein an IMG 150(2) is directly</p>

<p>(cont.) locally record and store an audio query message of said user on said user device;</p>	<p>coupled with the PSO 130 and interfaced to the PSO 130 e-mail network system. A pager user 206 speaks a voice message into the paging transceiver 140. The voice message is then stored in the paging transceiver. The stored voice message is transmitted to the PSO 130 using a paging protocol and routed to the IMG 150(2). The IMG 150(2) stores and formats the voice message and sends it as an e-mail through the data network 120 to ISP 170(1). The message is then retrieved and played by the messaging device 105(2).” <i>Helperich</i> at col.7:1-12</p> <p>C. US6747970 “In another arrangement, the custom audio information is a custom voice message provided by the user to the user agent, while in yet another arrangement, the custom audio information is a custom dial tone provided by the user to the user agent. Another arrangement provides that the at least one telecommunications hosting server is a plurality of telecommunications hosting servers located on and possibly spread out on the connectionless network. In this case, each user agent of the plurality of user agents executes on at least one of the plurality of telecommunications hosting servers. Each user agent, upon execution, can registers the telephony device that is associated with the user agent at that time with the one or more telecommunications hosting servers upon which that user agent performs, such that call connections made to telephony device(s) that are associated with the user agent are indicated to the user agent.” <i>Lamb</i> at col. 23:56-67 through col. 24:1-6</p>
<p>transmit said recorded audio query message to a host server;</p>	<p>A. US7130390 “The computer instructions configure the processor to record in an audio file, in response to input from a user, an audio message provided by the user to the microphone, and to transfer the audio file in which the audio message is recorded to the communications network via said interface, whereby the audio message recorded in the audio file may be transmitted through the communications network for delivery to said one or more remote devices.” <i>Abburi</i> at col. 2:49-57</p> <p>“The audio message is routed through the network interface 310 and transmitted through the computer network 210 and/or the telecommunications network 212 to the system 200 for recording, storage and delivery to the intended recipient(s).” <i>Abburi</i> at col. 8:34-38</p>

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transmit said recorded audio query message to a host server;

C. US6747970

“According to another arrangement, the System can operate to include the Steps of receiving a call signaling message from the connection-based network indicating a status of a connection on the connection based network and forwarding the call signaling message received from the connection based network to an appropriate user agent. This allows a telecommunications network Server that detects incoming calls to notify the telecommunications hosting Server of Such calls and the telecommunications hosting Server can then direct Such notification to appropriate user agents. The arrangement also includes the operation of updating call connection Status information associated with the appropriate user agent(s) based on the call signaling message indicating the Status of the connection on the connection based network. In other words, the user agent that receives Such notification can track the Status of call connection on the telephone network. **This allows the user agent to use this information to, for example, handle other incoming call requests. If the example a user agent “knows” that a line is busy, another request for a connection to that line (e.g., another user that may be attempting to call the busy line) can be directed to an alternative destination, Such as voice mail, or to another non-busy line, of the user agent can provide a call signaling message in return that contains, for example, an audio message that the telecommunications network Server can play back to the original caller attempting to connect to the user. The audio message can be a custom message based, for example, on the identity (as Specified in the original received call signaling message) of the caller. Other example of audio feedback can be custom dial tones, custom ringing, and So forth.”** *Lamb* at col. 14:7-37

“In another arrangement, **the call application message is embodied in an email message transmitted from a client computer to a user agent executing on the telecommunications hosting server. The email message specifies a call connection to be made on the connection-based network and the user agent processes the email message and determines the call connection to be made as specified in the email message and causes a telecommunications network server to place the call connection on the connection-based network.** This allows an email message to cause a call to be made, which is another example of an advanced service offered by the system of the invention.” *Lamb* at col. 15:52-63

said host server configured to **receive, distribute and assign the stored audio query message to said host agent device**; and

A. US7130390

“The computer server 202 is also shown connected to the telecommunications network 212 for sending messages and notifications to and/or receiving messages from telephony devices capable of exchanging information with the computer server 202 directly using a suitable protocol, such as the wireless application protocol.(WAP). Additionally, the computer server 202 and the IVR system 208 are each connected to the user profile store 204 and the audio message store 206. As a result of these various connections, and logic (e.g., computer-executable instructions) stored in the computer server 202 and the IVR system 208, **the system 200 can receive audio messages from and send audio messages to any device connected to the computer network 210 or the telecommunications network 212, including but not limited to a pager 214, a mobile phone 216, a conventional telephone 218, a desktop computer 220, a handheld computer 222, and the like**, as shown illustratively in FIG. 2.” *Abburri* at col. 4:44-61

B. US6826407

“Referring now to FIG. 2C, there is shown a routing map illustrating a voice message path from paging transceiver 140 to messaging device 105(2), wherein an IMG 150(2) is directly coupled with the PSO 130 and interfaced to the PSO 130 e-mail network system. A pager user 206 speaks a voice message into the paging transceiver 140. **The voice message is then stored in the paging transceiver. The stored voice message is transmitted to the PSO 130 using a paging protocol and routed to the IMG 150(2).** The IMG 150(2) stores and formats the voice message and sends it as an e-mail through the data network 120 to ISP 170(1). The message is then retrieved and played by the messaging device 105(2).” *Helperich* at col.7:1-12

“A Pager Switching Office (PSO) 130 (also referred to as a base station), comprises all of the necessary equipment and software for enabling communications between a paging transceiver 140 and the PSTN 110 or the data network 120. The PSO 130 and paging transceiver 140 are configured for voice messaging from the paging transceiver 140 to the PSO 130 and for visual messaging from the PSO 130 to the paging transceiver 140.” *Helperich* at col. 5:36-43

C. US6747970

“If the first and second user agent perform within the same telecommunications hosting server, then a form of inter-process communication can be used to allow the agents to communicate.

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said host server configured to **receive, distribute and assign the stored audio query message to said host agent device**; and

It is to be understood that there may be many more than two user agents as well. In variations of this embodiment, there may be groups of telecommunications hosting servers that are geographically dispersed, or a group may serve a single local, with many groups in different locales. **The telecommunications hosting server configurations may be central or distributed. In a distributed arrangement, a load balancer may cause the user agent for a particular user to perform on (i.e., to be executed on) any one of a selected group of telecommunications hosting servers, depending upon load conditions.**” *Lamb* at col. 22:26-39

“FIG. 5A illustrates a block diagram of a user agent 301 which includes data structures 330 through 341 provided in accordance with an example embodiment of the invention. **Generally, each user communicates with the telecommunications hosting server 203 via a respective user agent 301 assigned to that user. At a high level, the telecommunications hosting server 203 is essentially a large collection of user agents 301 that operate with server support provided by the runtime environment 300 within the telecommunications hosting server 203. The user agents 301 themselves are preferably software entities such as a program or script which contains the data, call processing and advanced service logic and code needed to process call signaling messages 230 and call application message 240 and to perform other tasks on behalf of the individual user assigned to that user agent 301.** When a user becomes a registered user of the system of the invention, an administrator (not shown) of the telecommunications hosting server 203 establishes a user agent 301 and associated data structures for that user. Note that in most cases, a user is a human user or person. **However, a user agent 301 can be provisioned on behalf of a non-human entity such as a remote computer host located elsewhere on the computer network 200. In this case, such a user agent 301 would be controlled, for example, by a remotely executing software application on the remote computer host to which that user agent 301 is assigned.**” *Lamb* at col. 36:37-62

an agent client application on said host agent device configured to **record and transmit a response to the user client application.**

A. US7130390

“The computer instructions configure the processor to record in an audio file, in response to input from a user, an audio message provided by the user to the microphone, and **to transfer the audio file in which the audio message is recorded to the communications network via said interface, whereby the audio message recorded in the audio file may be transmitted through the communications network for delivery to said one or more remote devices.**” *Abburi* at col. 2:49-57

B. US6826407

“The system operator is given the option to choose **a two-way messaging system for voice and visual messaging that utilizes the most efficient delivery path for routing messages depending on the type of message to be delivered or received (i.e. audio or visual). An MSO 125 or PSO 130 may now utilize the data network 120 for transporting voice messages.**” *Helperich* at col.7:36-41

C. US6747970

“**Such a system can send voice data in either direction between users thus providing a two-way telecommunications session. In this manner, users are able to speak to each other using computer network communications.**” *Lamb* at col. 4:39-43

13. The method of claim 1 wherein the **at least one call application message is embodied in an email message transmitted from a client computer to a user agent executing on the telecommunications hosting server . . .** *Lamb* at Claim 13