

Exhibit 414-1

INVALIDITY OF U.S. PATENT NO. 7,376,414 BY U.S. PATENT NO. 6,684,249 (“FRERICHS”)

Charted Reference:

- **U.S. Patent No. 6,684,249 (“Frerichs”)** anticipates and/or renders obvious, alone or in combination with one or more references identified below, the asserted claims of U.S. Patent No. 7,376,414 (“the ’414 patent”).

This claim chart is based on Google and YouTube’s (“Google”) current understanding of the asserted claims, the implicit assertions of claim scope that can be discerned from Wildseed’s vague and overbroad infringement contentions, and Google’s investigation to date. Google is not adopting Wildseed’s apparent constructions, nor is Google admitting to the accuracy of any particular construction. Google reserves all rights to amend this invalidity claim chart in light of any claim-construction developments or any amendments to Wildseed’s infringement contentions and as permitted by the Patent Local Rules and any orders in this case. Further, as discovery is ongoing and Google continues to seek discovery from third parties regarding the references identified in Google’s invalidity contentions as well as other potential prior art, Google reserves the right to revise its invalidity contentions as appropriate in view of any ongoing discovery.

The claim chart below identifies where each limitation of each asserted claim of the ’414 patent can be found in Frerichs. The citations provided below are exemplary, rather than exhaustive, and Google reserves the right to rely upon any other portion of the cited references.

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INVALIDITY OF U.S. PATENT NO. 7,376,414 BY U.S. PATENT NO. 6,684,249 (“FRERICHS”)

Claim	Exemplary Evidence of Anticipation and/or Obviousness
<p>[1PRE] 1. A method for playing content and advertisements on a cellular device, comprising:</p>	<p>To the extent the preamble limiting, Frerichs discloses a method for playing content and advertisements on a cellular device. <i>See</i> citations for claim elements 1A-D; <i>see also, e.g.:</i></p> <p style="padding-left: 40px;">[A] method for inserting advertisements into streaming audio for transmission over a world wide network of computers. The method includes transmitting audio data from a first server location to a client location. The audio data include a flag and audio content data. The method also includes monitoring the audio data and identifying the flag on the audio data. A step of inserting an advertisement, which is based upon a user profile, into the audio data based upon the flag is also included. The method also outputs the audio content data comprising the advertisement.</p> <p>Frerichs, Abstract.</p> <p style="padding-left: 40px;">This invention generally relates to techniques for broadcasting information through a wide area network of computers. More particularly, the present invention provides a method and device for inserting a targeted advertisement based upon a user profile through streaming audio. Merely by way of example, the present invention is implemented using a personal computer, but it would be recognized that the invention has a much broader range of applicability. The invention can be applied to other computing devices, such as cellular phones, internet appliances, personal digital assistants, laptop computers, set top boxes, television, and the like.</p> <p>Frerichs at 1:8-20.</p> <p style="padding-left: 40px;">According to the present invention, a technique including a method and device for streaming audio output is provided. More particularly, the invention provides a method and device for inserting targeted advertisement into streaming audio at a client location such as a personal computer. The invention also can be applied to other types of client devices such as personal digital assistants, internet appliances, internet radio, cellular phones, and the like.</p>

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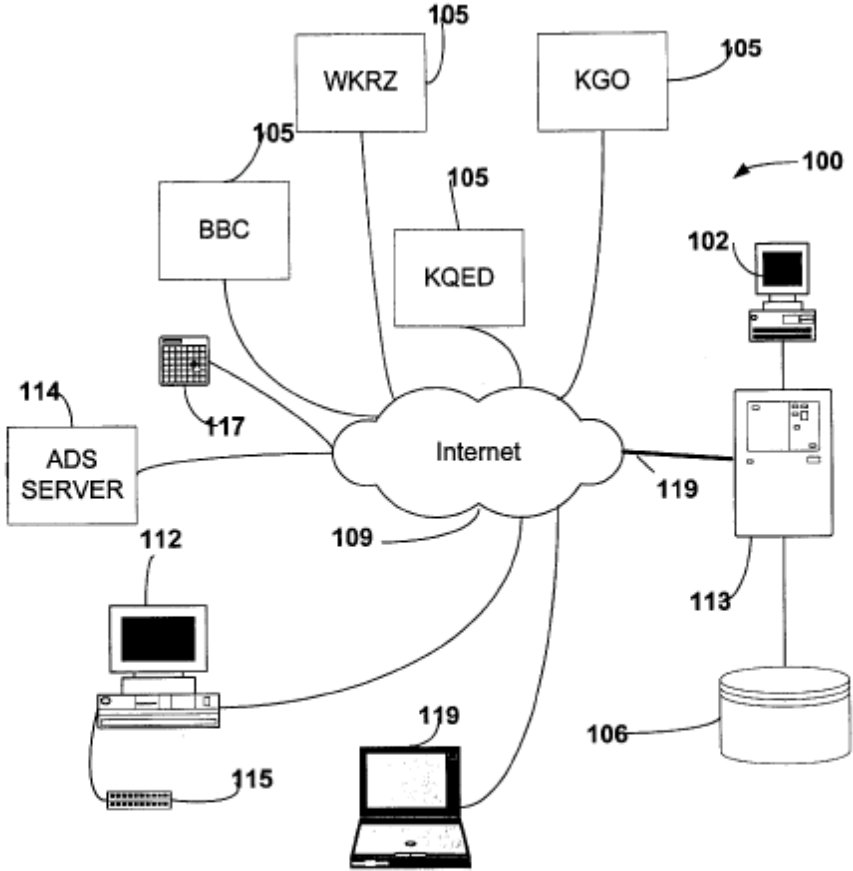
Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p data-bbox="506 345 758 375">Frerichs at 2:13-20.</p>  <p data-bbox="1060 1305 1205 1354">FIG. 1</p> <p>The diagram illustrates a network system where multiple devices are connected to a central cloud labeled 'Internet'. The devices include:</p> <ul style="list-style-type: none">Five radio stations: WKRZ, KGO, BBC, KQED, and another station labeled 105, all connected to the Internet cloud.An ADS SERVER (114) connected to the Internet cloud.A desktop computer (112) connected to the Internet cloud.A laptop (119) connected to the Internet cloud.A server rack (113) connected to the Internet cloud, which is also linked to a database (106).A mobile device (102) connected to the Internet cloud.A peripheral device (115) connected to the desktop computer (112).A small device (117) connected to the Internet cloud. <p>Reference numerals 100, 105, 106, 109, 112, 113, 114, 115, 117, and 119 are used to identify specific components and their connections within the network.</p>

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	<p>Frerichs, Fig. 1.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
<p>[1A] (a) autonomously providing to a server, by the cellular device, information associated with a user of the cellular device, the information taken by the cellular device from a message sent to the cellular device from another user of another cellular device, the message identifying characteristics of the user of the cellular device;</p>	<p>Frerichs discloses autonomously providing to a server, by the cellular device, information associated with a user of the cellular device, the information taken by the cellular device from a message sent to the cellular device from another user of another cellular device, the message identifying characteristics of the user of the cellular device. <i>See</i> citations for claim 1PRE; <i>see also, e.g.:</i></p> <p style="padding-left: 40px;">A step of inserting an advertisement, which is based upon a user profile, into the audio data based upon the flag is also included.</p> <p>Frerichs, Abstract.</p> <p style="padding-left: 40px;">This invention generally relates to techniques for broadcasting information through a wide area network of computers. More particularly, the present invention provides a method and device for inserting a targeted advertisement based upon a user profile through streaming audio. Merely by way of example, the present invention is implemented using a personal computer, but it would be recognized that the invention has a much broader range of applicability. The invention can be applied to other computing devices, such as cellular phones, internet appliances, personal digital assistants, laptop computers, set top boxes, television, and the like.</p> <p>Frerichs at 1:8-20.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p data-bbox="604 396 1921 574">According to the present invention, a technique including a method and device for streaming audio output is provided. More particularly, the invention provides a method and device for inserting targeted advertisement into streaming audio at a client location such as a personal computer. The invention also can be applied to other types of client devices such as personal digital assistants, internet appliances, internet radio, cellular phones, and the like.</p> <p data-bbox="508 594 758 623">Frerichs at 2:13-20.</p> <p data-bbox="604 699 1921 842">The advertisement, which is one of a plurality of advertisements, is based upon a user profile to provide a targeted advertisement to the user. The advertisement has been based upon a user profile. The user profile can be derived from a selected channel (e.g., jazz, rock, blues, Japanese, French) and other factors, e.g., geography, user registration information (e.g., sex, age).</p> <p data-bbox="508 862 758 891">Frerichs at 2:31-37.</p> <p data-bbox="604 967 1936 1399">FIG. 1 is a simplified diagram of a network computer system 100 according to an embodiment of the present invention. This diagram is merely an example, which should not limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. As shown, the system 100 includes a variety of elements such as a wide area network 109. The wide area network can be, for example, the Internet, an internet, or other type of network, which can include local area networks, intranets, and the like. Connected to the wide area network 109 is an audio tuning server 113, with terminal 102 and database 106. The wide area network allows for communication of other computers such as a client unit 112. Client can be configured with many different hardware components and can be made in many dimensions, styles and locations (e.g., laptop, palmtop, pen, server, workstation and mainframe). As shown, the system includes a lap top computer 119, which is coupled to the Internet, and a remote computing device 117, which is coupled to the Internet in a wireless manner. The remote computing device can include, for example, a cellular</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	phone, a personal digital assistant, a pager, or the like. Frerichs at 3:33-54.

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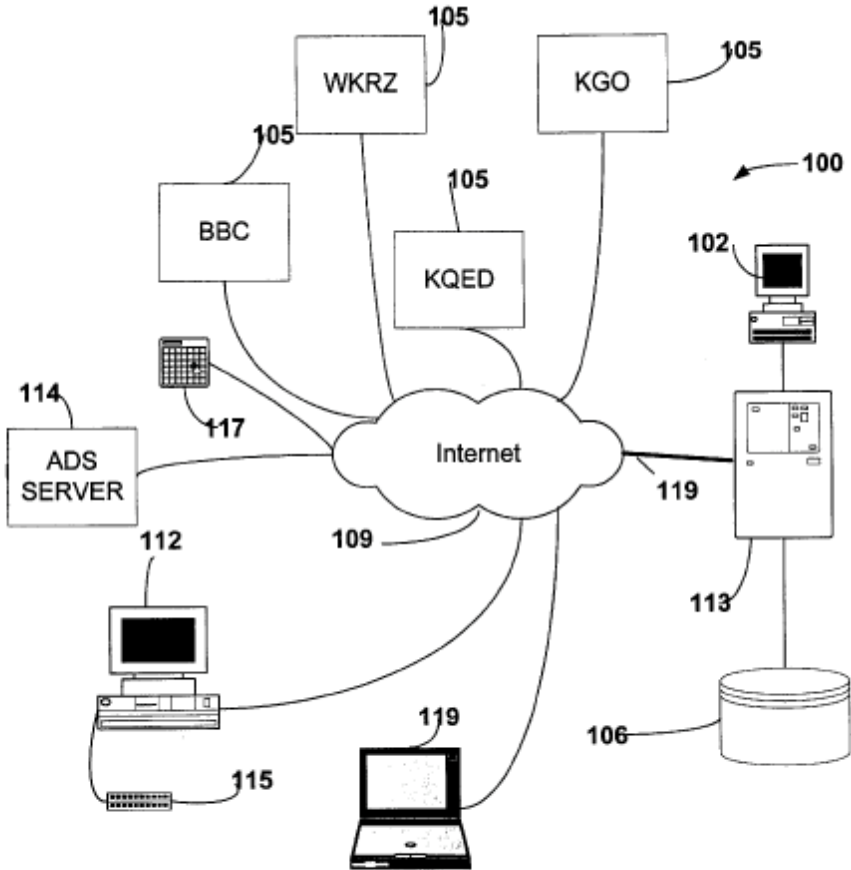
Claim	Exemplary Evidence of Anticipation and/or Obviousness
	 <p>The diagram, labeled FIG. 1, illustrates a network system. At the center is a cloud labeled "Internet" with reference numeral 109. Several entities are connected to this central cloud: <ul style="list-style-type: none">Five radio stations: WKRZ (105), KGO (105), BBC (105), KQED (105), and another station (105) at the top.An "ADS SERVER" (114) connected via a keyboard (117).A desktop computer (112) connected via a monitor and system unit.A laptop computer (119) connected via a screen and base.A server rack (119) connected via a vertical bus (113) to a storage unit (106).A mobile device (102) connected via a screen and base.Reference numeral 100 points to the overall system. Reference numeral 115 points to a peripheral device connected to the desktop computer.</p> <p>FIG. 1</p> <p>Frerichs, Fig. 1.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p>The terminal 102 is connected to tuning server 113. This connection can be by a network such as Ethernet, asynchronous transfer mode, IEEE standard 1553 bus, modem connection, universal serial bus, etc. The communication link need not be a wire but can be infrared, radio wave transmission, etc. Server 113 is coupled to the Internet 109. The Internet is shown symbolically as a cloud or a collection of server routers, computers, and other devices 109. The connection to server is typically by a relatively high bandwidth transmission medium such as a T1 or T3 line, but can also be others.</p> <p>Frerichs at 3:55-65.</p> <p>In certain embodiments, the audio tuning server 113 and database 106 store information and disseminate it to client devices over wide area network 109. The concepts of “client” and “server,” as used in this application and the industry, are loosely defined and, in fact, are not fixed with respect to machines or software processes executing on the machines. Typically, a server is a machine, e.g., or process that is providing information to another machine or process, i.e., the “client,” e.g., that requests the information. In this respect, a computer or process can be acting as a client at one point in time (because it is requesting information) and can be acting as a server at another point in time (because it is providing information). Some computers are consistently referred to as “servers” because they usually act as a repository for a large amount of information that is often requested. For example, a WEB site, which is an electronic site commonly on the World Wide Web (“WWW”), is often hosted by a server computer with a large storage capacity, high-speed processor and Internet link having the ability to handle many high-bandwidth communication lines.</p> <p>Frerichs at 3:66-4:18.</p> <p>FIG. 2 is a simplified diagram of a computing device for processing streaming audio information according to an embodiment of the present invention. This diagram is merely an example which should</p>

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	<p>not limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. Embodiments according to the present invention can be implemented in a single application program such as a browser, or can be implemented as multiple programs in a distributed computing environment, such as a workstation, personal computer or a remote terminal in a client server relationship. FIG. 2 shows computer system 210 including display device 220, display screen 230, cabinet 240, keyboard 250, scanner and mouse 270. Mouse 270 and keyboard 250 are representative “user input devices.” Mouse 270 includes buttons 280 for selection of buttons on a graphical user interface device. Other examples of user input devices are a touch screen, light pen, track ball, data glove, microphone, and so forth. The system also has audio output devices or speakers 232, which are each coupled to audio output ports in the computer system. The speakers are also coupled to a sound card, which converts digital audio information into an analog output. FIG. 2 is representative of but one type of system for embodying the present invention. It will be readily apparent to one of ordinary skill in the art that many system types and configurations are suitable for use in conjunction with the present invention. In a preferred embodiment, computer system 210 includes a Pentium™ class based computer, running Windows™ NT operating system by Microsoft Corporation. However, the apparatus is easily adapted to other operating systems and architectures by those of ordinary skill in the art without departing from the scope of the present invention.</p> <p>Frerichs at 4:58-5:23.</p> <p>In a specific embodiment, the customized software also provides for targeted advertisements based upon a user profile. Here, the software recognizes a unique identification number (ID) on the server and an associated demographic. The demographic is built from volunteered information and from monitoring of user listening patterns. When the streaming audio begins, the software checks for the most recent list of advertisement sequences available for that user. The list of sequences is generated by first matching the user demographic with the currently running advertisement sequences, for example. The software also checks to see how many times each advertisement has been heard by the user. The information is summarized in an available advertisement list that contains the relevant ad sequences, their associated audio tracks, and the number of times each track can still be heard by this listener before they expire.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p data-bbox="506 345 758 375">Frerichs at 9:39-54.</p> <p data-bbox="600 448 1911 662">The tuning server is a [sic] often a suitable computer connected to a local or worldwide network of computers. It maintains databases some of which contain various relevant information relating to internet radio stations and internet radio listeners. The tuning server may also compile statistics and/or add data to databases relating to user activity and requests. The tuning server also responds to requests made by the client for information. There are many possible implementations of the tuning server and client such that the server can provide information to the client on request.</p> <p data-bbox="506 683 772 712">Frerichs at 11:33-42.</p> <p data-bbox="600 789 1934 1076">In a specific embodiment, the method retrieves the advertisement, which has been selected based upon a user profile (step 600). The user profile can include information derived from a user registration process. The user registration process can derive information such as, for example, sex, age, hobbies, geographic region, race, religion, health, and sexual orientation. Other information can also be derived from the stations being selected as well as use of such stations during the time of day, for example. The user profile information can also include any other information which can be used to provide a more desirable advertisement or information to the user. Since the user is at a specific client location, the advertisement can be targeted to the user. Details of such user profile process is provided below.</p> <p data-bbox="506 1097 772 1127">Frerichs at 14:40-53.</p>

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	<div data-bbox="598 373 1438 1096"><p>The diagram illustrates a system architecture and a sequence of events. The system components include an AD SERVER (317), STORAGE (313), BUFFER (315), and ADS (309). A timeline shows the processing of SONG 1 (301) and SONG 2 (305) at three distinct times: T0, T1, and T2. At T0, SONG 1 (301) is in the BUFFER (315) and a FLAG (303) is set. At T1, SONG 1 (301) is in the ADS (309) and a FLAG (307) is set. At T2, SONG 1 (301), ADS (309), and SONG 2 (305) are all present in the ADS (309).</p></div> <p style="text-align: center;">FIG. 3</p> <p>Frerichs, Fig. 3.</p>

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	<p>In some embodiments, the advertisements are selected based upon a user profile (step 607). The user profile can include information derived from a user registration process. The user registration process can derive information such as, for example, sex, age, hobbies, geographic region, race, religion, health, and sexual orientation. Other information can also be derived from the stations being selected as well as use of such stations during the time of day, for example. The user profile information can also include any other information which can be used to provide a more desirable advertisement or information to the user. The user profile is used to query memory and retrieve advertisements that match or should be desirable to the user.</p> <p>Frerichs at 15:40-52.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<div data-bbox="627 344 1173 1101"><pre>graph TD 501([START]) --> 503[CONNECT] 503 --> 505[PROVIDE AUDIO DATA] 505 --> 507{FLAG/TIME} 507 -- NO --> 519([OUTPUT]) 519 --> 502[FADE AUDIO] 502 --> 505 507 -- YES --> 511[INSERT AD] 511 --> 515[RETRIEVE AD] 515 --> 600[PROCESS VIA PROFILE] 515 --> 521[(LOCAL)] 515 --> 523[(TUNE SERVER)] 515 --> 525[(OTHER SERVER)] 521 -- 511 --> 511 523 -- 527 --> 511 525 -- 527 --> 511</pre><p>The flowchart, labeled 500, begins with a 'START' terminal (501). It proceeds to a 'CONNECT' process (503), then to 'PROVIDE AUDIO DATA' (505). A decision diamond (507) labeled 'FLAG/TIME' follows. If the answer is 'NO', the flow goes to an 'OUTPUT' terminal (519), then to a 'FADE AUDIO' process (502), which loops back to 'PROVIDE AUDIO DATA' (505). If the answer is 'YES', the flow goes to an 'INSERT AD' process (511). From 'INSERT AD' (511), the flow goes to 'RETRIEVE AD' (515). From 'RETRIEVE AD' (515), the flow goes to 'PROCESS VIA PROFILE' (600). Additionally, 'RETRIEVE AD' (515) is connected to three data stores: 'LOCAL' (521), 'TUNE SERVER' (523), and 'OTHER SERVER' (525). Arrows labeled 511, 527, and 527 point from these data stores to the 'INSERT AD' (511) process.</p></div> <p data-bbox="743 1166 863 1206">FIG. 5</p> <p data-bbox="506 1320 709 1352">Frerichs, Fig. 5.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<div data-bbox="598 341 1386 933"><pre>graph TD 601([START]) --> 603[DOWNLOAD ADS] 603 --> 605[RANDOMIZE] 605 --> 609[BUFFER] 609 --> 515[RETRIEVE AD] 515 --> 511[INSERT AD] 511 --> NEXT[Next Steps] 603 --> 607[PROCESS VIA PROFILE] 603 --> 600[LOCAL 521, TUNE SERVER 523, OTHER SERVER 525]</pre></div> <p data-bbox="934 1055 1071 1112">FIG. 6</p> <p data-bbox="504 1153 714 1193">Frerichs, Fig. 6.</p> <p data-bbox="504 1258 1018 1299"><i>See also</i> citations for claim element 1B.</p> <p data-bbox="504 1364 1848 1404">To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even</p>

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	<p>without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p> <p>Methods for transmitting targeted advertisements based on characteristics of the user were well known in the art long before the alleged invention of the ’414 patent. Prior art systems commonly collected user information to aid in the selection of an advertisement matching the interests and characteristics of the user. <i>See, e.g.</i>, ’414 charts for Brown, Sirota, Leeke, and Weber at claim element 1A; Swix at 5:29-33 (“it is an object of the present invention to provide a system and method for delivering targeted advertisements to the types of consumers most likely to purchase the advertised product or service.”); <i>id.</i> at 6:8-24, 8:4-13, 11:3-12:19; Boyd at 5:9-13 (“The invention provides targeted advertisements by detecting identifying signals emitted from individuals and delivering targeted advertisements to the individuals using the identifying signals to retrieve consumer profile information relating to the individuals.”); <i>id.</i> at 1:8-13 (“the invention relates to advertising devices which communicate advertisements to targeted individuals based on information relating to the individual's consumer profile”); Zigmond at 4:10-13 (“The method of invention allows advertisers to target individual viewers based on the needs and interests of individual viewers.”); <i>id.</i> at 4:13-5:25; Partovi at 18:23-67; Brandt at 3:9-4:32, 33:52-65; Gehlot at [0016]-[0022].</p> <p>It was well known, for instance, that advertisements could be selected based on user information, including (among other things) demographic information, location information, prior viewing or listening history, and/or any other information concerning the user’s personal preferences. <i>See, e.g.</i>, Brown 18:23-at 3:21-51 (geographic data, demographic data associated with the user, or any other user profiling data); <i>id.</i> at 6:61-7:11 (user’s gender, hobbies, or listening history); Weber at 5:19-32 (user demographics and web sites visited); <i>id.</i> at 6:7-26 (program selection history); Sirota at [0042] (“[T]he profile includes demographic as well as interest information about the user or consumer. Examples of demographic information are age, sex, education and so forth, whereas examples of interest information are rock and roll music, sky diving, sailing and so forth. In one embodiment, the profile also includes geographic information such as zip code.”); Leeke at 50:52-57 (“User</p>

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	<p>preferences and behavior are tracked to generate information of interest for each user. This information can relate to his/her music taste, geographical location, and/or other personalized criteria.”); Boyd at 7:28-34 (“advertisements are targeted based on an electronic profile of the individuals which may include personal characteristics of the individuals. These characteristics includes gender, age, profession/occupation, education, income, religion, ethnicity, country of origin, marital status, interests, hobbies, affiliations, travel history, etc.”); Partovi at 4:66-67 (“The system may target advertising based on the caller’s demographic and/or psychographic profile.”).</p> <p>Such user information was commonly provided by a user device to a server and used to create a user profile to aid in selecting a targeted advertisement. <i>See, e.g.</i>, Brown at 3:61-63 (“the ads chosen for dynamic insertion are chosen according to user profile data”); Weber, Abstract (“Each Internet provided radio broadcast includes advertisements targeted for each individual listener/user based on a demographics profile.”); Sirota at [0041] (“advertisement module 103 generates and provides a profile of the user to advertisement publisher/server 110, block 302, allowing advertisement publisher/server 110 to provide the advertisements based at least in part on the information provided in the profile”); Leeke at 50:28-37 (“Each user profile can include transaction information, demographic information, psychographic information, geographic information, sonographic information, and listening behavior information for its associated user.”); Partovi at 6:65-7:30, 18:53-67; Gehlot at [0037]-[0041], [0065]-[0072], [0088]-[0095].</p> <p>Given the state of the art, and the disclosures of Frerichs, a person of ordinary skill in the art would have readily appreciated that, in Frerichs’ system, information concerning the characteristics of the user could be collected in a variety of ways known in the art, including by taking such information from a message sent from another user of another device. <i>See, e.g.</i>, Kawasaki at 4:33-56, 5:59-6:8, 6:23-36; <i>see also, e.g.</i>, Herz at 7:43-51 (disclosing targeted advertisements based on the content of text chat or voice messages); Ford at 2:38-42 (“A further object of the invention is to provide a method and system to target a message responsive to dynamic information gathered from a real-time communication on a computer network such as the Internet.”); <i>id.</i> at 5:28-42, 6:2-</p>

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	<p>7:55, 9:39-58, 11:1-12:64. The particular method for collecting profile information would have been a design choice.</p> <p>To the extent a combination is required, it would have been obvious for a person of ordinary skill in the art to combine Frerichs with the teachings of Kawasaki. Kawasaki discloses a method for generating and using an Internet user’s personal interest profile to improve the match between the user’s interests and advertisements targeted to that user. Kawasaki at 1:10-13; <i>see also id.</i> at 2:47-3:38, 3:60-4:5, 5:1-52. To generate the profile, Kawasaki discloses scanning user information (including messages sent from other users). <i>Id.</i> at 4:33-56, 5:59-6:8, 6:23-36. For instance, Kawasaki discloses “analyzing sent and received e-mail information and building Profiles based upon its content.” <i>Id.</i> at 5:59-6:8. As another example, Kawasaki discloses “analyzing chat discussions and building Profiles based on their content.” <i>Id.</i> at 6:23-36; <i>see also id.</i> at 4:6-56, 6:37-50; Figs. 1-6. Such profiles are subsequently used “to make highly targeted offers. <i>Id.</i> at 4:54-56.</p> <p>A person of ordinary skill in the art would have been motivated to combine Frerichs with the teachings of Kawasaki for any number of reasons. For instance, Frerichs and Kawasaki both belong to the same field of endeavor (targeted advertising), and both describe customizing advertising content based upon user profiles. Furthermore, both references disclose generating such profiles using information provided by user devices. To the extent a person or ordinary skill in the art reviewing Frerichs desired additional detail regarding the creation of user profiles, such a person would have been motivated to consider the teachings of Kawasaki. A person of ordinary skill in the art would have been motivated to combine Frerichs with the teachings of Kawasaki, among other reasons, to create a more comprehensive profile reflecting the personal characteristics of the user. Applying the teachings of Kawasaki would have involved nothing more than the application of known techniques to a known method ready for improvement to yield predictable results.</p> <p>In addition, to the extent a combination is required, it would have been obvious for a person of ordinary skill in the art to combine Frerichs with the teachings of McGregor. McGregor teaches a method for sending targeting</p>

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	<p>advertisements to device users, including users of cellular telephones, based on the content of e-mail messages sent by other users. <i>See</i> McGregor at [0013-16]; [0034]; [0060-61], [0069-70], [0089-102]. The method involves scanning e-mail messages for the presence of defined keywords (such as, for example, football, movie, music, etc.) and using such information to build a user profile for later use in transmitting a targeted advertisement to the message recipient. <i>Id.</i> at [0060-61]; <i>see also id.</i> at [0029-41], [0056-59], [0069-70], [0085-90]; Figs. 1, 5, 7A-B, 9-11.</p> <p>A person of ordinary skill in the art would have been motivated to combine Frerichs with the teachings of McGregor for any number of reasons. For instance, Frerichs and McGregor both belong to the same field of endeavor (targeted advertising), and both describe customizing advertising content based upon user profiles. Furthermore, both references disclose generating such profiles using information provided by user devices and delivering targeted advertisements to users of cellular devices. To the extent a person of ordinary skill in the art reviewing Frerichs desired additional detail regarding the creation of user profiles, and customizing advertisements based on the characteristics of users, such a person would have been motivated to consider the teachings of McGregor. A person of ordinary skill in the art would have been motivated to combine Frerichs with the teachings of McGregor, among other reasons, to create a more comprehensive profile reflecting the personal characteristics of the user. Applying the teachings of McGregor would have involved nothing more than the application of known techniques to a known method ready for improvement to yield predictable results.</p>
[1B] (b) receiving from the server, by the cellular device, at least one advertisement to be played on the	<p>Frerichs discloses receiving from the server, by the cellular device, at least one advertisement to be played on the cellular device, wherein the at least one received advertisement is determined by the server based at least in part on the provided information. <i>See</i> citations and obviousness discussion for claim element 1A; <i>see also, e.g.:</i></p> <p style="text-align: center;">A method for inserting advertisements into streaming audio for transmission over a world wide network</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
<p>cellular device, wherein the at least one received advertisement is determined by the server based at least in part on the provided information;</p>	<p>of computers. The method includes transmitting audio data from a first server location to a client location. The audio data include a flag and audio content data. The method also includes monitoring the audio data and identifying the flag on the audio data. A step of inserting an advertisement, which is based upon a user profile, into the audio data based upon the flag is also included. The method also outputs the audio content data comprising the advertisement.</p> <p>Frerichs, Abstract.</p> <p>This invention generally relates to techniques for broadcasting information through a wide area network of computers. More particularly, the present invention provides a method and device for inserting a targeted advertisement based upon a user profile through streaming audio. Merely by way of example, the present invention is implemented using a personal computer, but it would be recognized that the invention has a much broader range of applicability. The invention can be applied to other computing devices, such as cellular phones, internet appliances, personal digital assistants, laptop computers, set top boxes, television, and the like.</p> <p>Frerichs at 1:8-20.</p> <p>According to the present invention, a technique including a method and device for streaming audio output is provided. More particularly, the invention provides a method and device for inserting targeted advertisement into streaming audio at a client location such as a personal computer. The invention also can be applied to other types of client devices such as personal digital assistants, internet appliances, internet radio, cellular phones, and the like.</p> <p>Frerichs at 2:13-20.</p> <p>The advertisement, which is one of a plurality of advertisements, is based upon a user profile to provide a targeted advertisement to the user. The advertisement has been based upon a user profile. The user</p>

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	<p>profile can be derived from a selected channel (e.g., jazz, rock, blues, Japanese, French) and other factors, e.g., geography, user registration information (e.g., sex, age).</p> <p>Frerichs at 2:31-37.</p>

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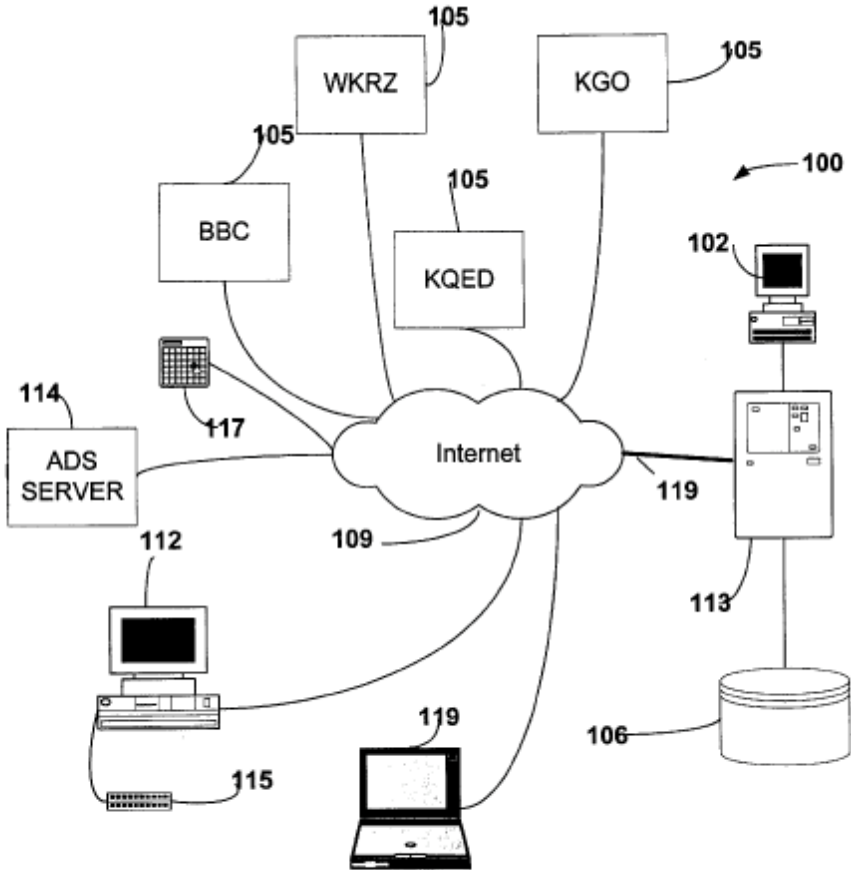
Claim	Exemplary Evidence of Anticipation and/or Obviousness
	 <p>The diagram, labeled FIG. 1, illustrates a network system. At the center is a cloud labeled "Internet" with reference numeral 109. Several entities are connected to this central cloud: three radio stations (WKRZ, KGO, and KQED) each labeled with 105; a BBC station labeled 105; an ADS SERVER labeled 114; a calculator labeled 117; a desktop computer labeled 112; a laptop labeled 119; a server rack labeled 119; and a database cylinder labeled 106. A reference numeral 100 with an arrow points to the entire system. A reference numeral 115 points to a keyboard connected to the desktop computer 112.</p> <p>FIG. 1</p> <p>Frerichs, Fig. 1.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p>FIG. 1 is a simplified diagram of a network computer system 100 according to an embodiment of the present invention. This diagram is merely an example, which should not limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. As shown, the system 100 includes a variety of elements such as a wide area network 109. The wide area network can be, for example, the Internet, an internet, or other type of network, which can include local area networks, intranets, and the like. Connected to the wide area network 109 is an audio tuning server 113, with terminal 102 and database 106. The wide area network allows for communication of other computers such as a client unit 112. Client can be configured with many different hardware components and can be made in many dimensions, styles and locations (e.g., laptop, palmtop, pen, server, workstation and mainframe). As shown, the system includes a lap top computer 119, which is coupled to the Internet, and a remote computing device 117, which is coupled to the Internet in a wireless manner. The remote computing device can include, for example, a cellular phone, a personal digital assistant, a pager, or the like.</p> <p>Frerichs at 3:33-54.</p> <p>The terminal 102 is connected to tuning server 113. This connection can be by a network such as Ethernet, asynchronous transfer mode, IEEE standard 1553 bus, modem connection, universal serial bus, etc. The communication link need not be a wire but can be infrared, radio wave transmission, etc. Server 113 is coupled to the Internet 109. The Internet is shown symbolically as a cloud or a collection of server routers, computers, and other devices 109. The connection to server is typically by a relatively high bandwidth transmission medium such as a T1 or T3 line, but can also be others.</p> <p>Frerichs at 3:55-65.</p> <p>In certain embodiments, the audio tuning server 113 and database 106 store information and disseminate</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p>it to client devices over wide area network 109. The concepts of “client” and “server,” as used in this application and the industry, are loosely defined and, in fact, are not fixed with respect to machines or software processes executing on the machines. Typically, a server is a machine, e.g., or process that is providing information to another machine or process, i.e., the “client,” e.g., that requests the information. In this respect, a computer or process can be acting as a client at one point in time (because it is requesting information) and can be acting as a server at another point in time (because it is providing information). Some computers are consistently referred to as “servers” because they usually act as a repository for a large amount of information that is often requested. For example, a WEB site, which is an electronic site commonly on the World Wide Web (“WWW”), is often hosted by a server computer with a large storage capacity, high-speed processor and Internet link having the ability to handle many high-bandwidth communication lines.</p> <p>Frerichs at 3:66-4:18.</p> <p>In each of the servers 105, information such as advertisements can be inserted into the streaming audio for output at any one of the client devices. Information can also be inserted into the streaming audio at server 113. Additionally, information such as advertisements can be inserted into the streaming audio from an advertisement server 114, which can store advertisements for use with the streaming audio. The advertisements can be sent using a broadcast model, where the advertisements can be distributed to a group of users. Alternatively, they can be sent to a targeted group of users. Still further, a specific advertisement can be sent to a specific client, where the advertisement is carried by the streaming media. Further details of the processing hardware and software are shown below and illustrated by the Figures.</p> <p>Frerichs at 4:44-57.</p> <p>A method according to an embodiment of the present invention is briefly described below:</p> <ol style="list-style-type: none">1. Provide first audio data for first song and second audio data for second song at a server location;

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<ol style="list-style-type: none">2. Provide flag comprising advertisement indication and delay at the server location;3. Add flag onto first audio data, which is now between the first song and second song at the server location (or other location);4. Transfer flagged first audio data and second audio data from server location to client location as streaming audio;5. Select advertisement from a user profile;6. Transfer advertisement for insertion;7. Retrieve advertisement from storage;8. Insert advertisement into streaming audio at the flagged location;9. Process streaming audio including the advertisement;10. Output first song through audio output device;11. Output advertisement through audio output device;12. Output second song through audio output device; and13. Perform additional steps, as desired. <p>Frerichs at 6:18-42.</p> <p>These steps show an easy way to insert an advertisement into streaming audio according to the present invention. The steps can be carried out using conventional hardware and selected software. The invention can be provide the user of the client device streaming audio with advertisements inserted between songs, for example. The advertisement can be selected from one of a plurality of storage locations, such as local storage, third party storage, and many others, depending upon the embodiment. In a preferred embodiment, the invention provides for a targeted advertisement to a user. Additionally, these steps are merely examples and should not limit the scope of the claims herein. One of ordinary</p>

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	<p>skill in the art would recognize many other variations, modifications, and alternatives.</p> <p>Frerichs at 6:43-56.</p> <p>FIG. 3 is a simplified diagram of a data insertion method 300 according to an embodiment of the present invention. This diagram is merely an example which should not unduly limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. At a server location, the method 300 provides first audio data for a first song 301 and second audio data for a second song 305. The first audio data is provided at time T_0, which is an initial or zero time, as given only for reference purposes. As shown, the method also provides a flag comprising advertisement indication and delay at the server location. The flag is data that indicates where an advertisement is to be inserted. The flag often has other information such as the length of the advertisement, current content type (e.g. music/talk), and current ad frequency on this stream (e.g. 2 per hour).</p> <p>Frerichs at 6:57-7:5.</p> <p>As noted, the advertisement can come from one of the plurality of content servers, each corresponding to a radio station with call letter, e.g., BBC, WKRZ, KQED, KGO. Each of these servers can be coupled directly to the network or through a client computer. Each of the servers can be similar or can also be different, depending upon the application. Each of the servers is preferably coupled to a radio station, which has a large depository of music and/or audio information, which can be communicated to the Internet and finally to client destinations. Here, the audio information is converted into a digital streaming format for transmission through the wide area network of computers. The audio data, either from an analog feed from the radio station, or from digital audio files is provided through streaming media software. The streaming media software provides the audio data to clients which request a connection to the audio data. The streaming media software sends the encoded audio to the client as a sequence of data packets. The client receives the packets and can decode the packets to then play the</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p>audio content, as noted.</p> <p>Frerichs at 7:6-25.</p> <p>Next, the method adds the flag 303 onto first audio data, which is now between the first song and second song at the server location (or other location). Here, the flag can be provided at the radio station server location. Alternatively, the flag can be provided at a tuning server location or other locations. In most embodiments, the flag is provided onto the first audio data at first time T_1, where $T_1 > T_0$, which signifies a delay 315 between the initial time and the first time. The delay can be caused by a variety of factors such as latency in the network or the like. In some embodiments, the method transfer the flagged first audio data and second audio data from server location to client location as streaming audio. In some other embodiments, the first audio data and the second audio data are transferred to a server for insertion of advertisements.</p> <p>Frerichs at 7:26-40.</p> <p>The method retrieves an advertisement 309 from storage. Here, the advertisement can be retrieved from location storage 313, which can be at the client location. Alternatively, the advertisement can be retrieved from an advertising server or other third party server 311. In some embodiments, the method may buffer 315 the advertisement and then provide it for insertion into the streaming audio. he method monitors the streaming audio for the flag 307. Once the flag has been found, the method inserts the advertisement between the first audio data and the second audio data. The streaming audio data is now ready for output at an audio output device, which is coupled to the client device. Depending upon the form of the streaming audio, the method can process streaming audio including the advertisement to make it suitable for output. Many conventional techniques can be used for converting the streaming audio into an analog signal for output on a conventional speaker, for example.</p> <p>Frerichs at 7:41-58.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p data-bbox="600 394 1940 646">Next, the method transfers the streaming audio with flag to the network, step 357. The network can be a local area network, an internet, an intranet, or the Internet. The streaming audio is transferred to the tuning server, which directs the audio to a client for output. In these embodiments, the tuning server can insert the advertisement. Alternatively, the client can also insert the advertisement. Still further the streaming audio with flag can be sent to the client, which inserts the advertisement. Alternatively, a third party server, including the tuning server, can insert the advertisement. These and other embodiments will be recognized by one of ordinary skill in the art.</p> <p data-bbox="506 667 758 695">Frerichs at 9:27-38.</p> <p data-bbox="600 773 1940 1097">In a specific embodiment, the customized software also provides for targeted advertisements based upon a user profile. Here, the software recognizes a unique identification number (ID) on the server and an associated demographic. The demographic is built from volunteered information and from monitoring of user listening patterns. When the streaming audio begins, the software checks for the most recent list of advertisement sequences available for that user. The list of sequences is generated by first matching the user demographic with the currently running advertisement sequences, for example. The software also checks to see how many times each advertisement has been heard by the user. The information is summarized in an available advertisement list that contains the relevant ad sequences, their associated audio tracks, and the number of times each track can still be heard by this listener before they expire.</p> <p data-bbox="506 1118 758 1146">Frerichs at 9:39-54.</p> <p data-bbox="600 1224 1850 1252">A method according to an embodiment of the present invention can be briefly outlined as follows:</p> <ol data-bbox="600 1276 1940 1382" style="list-style-type: none">1. Connect client (e.g., personal computer, cellular phone, personal digital assistant, work station, television set top box, pager, internet radio, an internet appliance) to tuning server, which is coupled to a world wide area of computers;

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<ol style="list-style-type: none">2. Optionally, prompt and display indication on a first display portion of the client to user for a station;3. Select indication directed to a certain station from the client;4. Request connection for the certain station from the client to the tuning server through the network;5. Redirect connection from the tuning server to a URL for an audio stream of the certain station at the radio station server;6. Transfer audio stream from the radio station server to the client to play audio stream on audio output device;7. Provide first audio data for first song and second audio data for second song at the server location;8. Provide flag comprising advertisement indication and delay at the server location (or use time or top of hour configuration to decide location of advertisement);9. Add flag onto first audio data, which is now between the first song and second song at the server location (or other location);10. Transfer flagged first audio data and second audio data from server location to client location as streaming audio;11. Retrieve advertisement from storage based upon a user profile;12. Insert advertisement into streaming audio at the flagged location (or at a specific time or top of hour);13. Process streaming audio including the advertisement;14. Output first song, advertisement, and second song through audio output device; and15. Perform other steps, as desirable. <p>Frerichs at 10-17-56.</p>

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	<p>In a specific embodiment, the method retrieves the advertisement, which has been selected based upon a user profile (step 600). The user profile can include information derived from a user registration process. The user registration process can derive information such as, for example, sex, age, hobbies, geographic region, race, religion, health, and sexual orientation. Other information can also be derived from the stations being selected as well as use of such stations during the time of day, for example. The user profile information can also include any other information which can be used to provide a more desirable advertisement or information to the user. Since the user is at a specific client location, the advertisement can be targeted to the user. Details of such user profile process is provided below.</p> <p>Frerichs at 14:40-53.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<div data-bbox="627 344 1173 1101"><pre>graph TD 501([START]) --> 503[CONNECT] 503 --> 505[PROVIDE AUDIO DATA] 505 --> 507{FLAG/TIME} 505 --> 502[FADE AUDIO] 507 -- NO --> 519([OUTPUT]) 507 -- YES --> 511[INSERT AD] 511 --> 515[RETRIEVE AD] 515 --> 521[(LOCAL)] 515 --> 523[(TUNE SERVER)] 515 --> 525[(OTHER SERVER)] 521 --> 527 523 --> 527 525 --> 527 527 --> 600[PROCESS VIA PROFILE]</pre></div> <p data-bbox="743 1166 863 1206">FIG. 5</p> <p data-bbox="506 1268 709 1300">Frerichs, Fig. 5.</p> <p data-bbox="602 1373 1881 1401">Next, the method adds the flag onto first audio data, which is now between the first song and second</p>

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	<p>song at the server location (or other location). Here, the flag can be provided at the radio station server location. Alternatively, the flag can be provided at a tuning server location or other locations. In most embodiments, the flag is provided onto the first audio data at first time T_1, where $T_1 > T_0$, which signifies a delay between the initial time and the first time. The delay can be caused by a variety of factors such as latency in the network or the like. In some embodiments, the method transfer the flagged first audio data and second audio data from server location to client location as streaming audio. In some other embodiments, the first audio data and the second audio data are transferred to a server for insertion of advertisements at a client location.</p> <p>Frerichs at 13:33-47.</p> <p>Next, the method retrieves an advertisement 515 from storage 527. Here, the advertisement can be retrieved from location storage 521, which can be at the client location. Alternatively, the advertisement can be retrieved from an advertising server or other third party server 525. Alternatively, the advertisement can be retrieved from the tuning server 523. The method monitors (step 507) the streaming audio for the flag. Once the flag has been found, the method inserts (step 511) the advertisement between the first audio data and the second audio data. The streaming audio data is now ready for output at an audio output device, which is coupled to the client device. Depending upon the form of the streaming audio, the method can process streaming audio including the advertisement to make it suitable for output. Many conventional techniques can be used for converting the streaming audio into an analog signal for output on a conventional speaker, for example.</p> <p>Frerichs at 13:48-64.</p> <p>In a specific embodiment, the customized software also provides for targeted advertisements based upon a user profile. Here, the software recognizes a unique identification number (ID) on the server and an associated demographic. The demographic is built from volunteered information and from monitoring of user listening patterns. When the streaming audio begins, the software checks for the most recent list of advertisement sequences available for that user. The list of sequences is generated by first matching the</p>

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	<p>user demographic with the currently running advertisement sequences, for example. The software also checks to see how many times each advertisement has been heard by the user. The information is summarized in an available advertisement list that contains the relevant ad sequences, their associated audio tracks, and the number of times each track can still be heard by this listener before they expire.</p> <p>Frerichs at 9:39-54.</p> <p>FIG. 6 is a simplified diagram of a method 600 for selecting an advertisement for streaming audio according to an embodiment of the present invention. This diagram is merely an example, which should not unduly limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, alternatives, and modifications. Like reference numerals are used in this Figure. as the previous Figure. for easy cross referencing, but are not intended to be limiting. As shown, the method begins at start, step 601. The method downloads a plurality of advertisements, which have been stored in memory. Here, the advertisement can be retrieved from location storage 521, which can be at the client location. Alternatively, the advertisement can be retrieved from an advertising server or other third party server 525. Alternatively, the advertisement can be retrieved from the tuning server 523.</p> <p>Frerichs at 15:24-39.</p> <p>In some embodiments, the advertisements are selected based upon a user profile (step 607). The user profile can include information derived from a user registration process. The user registration process can derive information such as, for example, sex, age, hobbies, geographic region, race, religion, health, and sexual orientation. Other information can also be derived from the stations being selected as well as use of such stations during the time of day, for example. The user profile information can also include any other information which can be used to provide a more desirable advertisement or information to the user. The user profile is used to query memory and retrieve advertisements that match or should be desirable to the user.</p> <p>Frerichs at 15:40-52.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<div data-bbox="598 446 1375 1031"><pre>graph TD 601([START]) --> 603[DOWNLOAD ADS] 603 --> 605[RANDOMIZE] 605 --> 609[BUFFER] 609 --> 515[RETRIEVE AD] 515 --> 511[INSERT AD] 511 --> NEXT[→NEXT STEPS] 607[PROCESS VIA PROFILE] --- 603 607 --- 605 607 --- 609 603 --- 521[(LOCAL)] 603 --- 523[(TUNE SERVER)] 603 --- 525[(OTHER SERVER)] subgraph 600 601 603 605 609 515 511 end</pre></div> <p data-bbox="934 1161 1060 1209">FIG. 6</p> <p data-bbox="504 1258 714 1299">Frerichs, Fig. 6.</p> <p data-bbox="598 1364 1816 1404">Once the desired advertisements have been downloaded, the method randomizes (step 605) the</p>

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	<p>advertisements to select one of the advertisements for output. Here, the method can use a random number generator approach to select the advertisement. Alternatively, the method can select the advertisement based upon other information in the user profile, step 607. For example, the selected advertisement can be desirable for outputting at a selected time of day, e.g., morning, night, afternoon. The advertisement is then outputted to an audio stream process, step 509, which could hold the advertisement in a buffer. Next, the method retrieves the advertisement (step 515) from buffer, and inserts (step 511) the advertisement into the streaming audio.</p> <p>Frerichs at 15:53-65.</p> <p>Here, the method monitors the streaming audio for the flag. Once the flag has been found, the method inserts the advertisement between the first audio data and the second audio data. The streaming audio data is now ready for output at an audio output device, which is coupled to the client device. Depending upon the form of the streaming audio, the method can process streaming audio including the advertisement to make it suitable for output. Many conventional techniques can be used for converting the streaming audio into an analog signal for output on a conventional speaker, for example.</p> <p>Frerichs at 15:66-16:9.</p> <p>Next, the method outputs the first song through audio output device. The method output the advertisement through audio output device; and the method output the second song through audio output device. Often times, the first song is outputted at second time T_2, where $T_2 > T_1$, which signifies a delay between the first time and the second time. The delay can be caused by a variety of factors such as latency in the network or the like. The delay also can be selectively caused by way of a buffer or cache and the like. The streaming audio, which is output, includes first song, advertisement, and second song, which is output in a continuous manner. Depending upon the embodiment, the method continues to perform additional steps, as desired, or even repeats previous steps.</p> <p>Frerichs at 16:10-23.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p>In a preferred alternative embodiment, the method monitors for a selected time to insert the advertisement, which is based upon the user profile. Here, the advertisement is not inserted into a delay or free spot in the streaming audio. The method finds a desired time, such as top of hour (e.g., 1:00 p.m., 2:00 p.m.) or half and hour, and outputs an advertisement at such time. The method can also insert the advertisement at a selected song or other indication, which is not a flag, in particular, The method adds the advertisement information in audio form on top of the streaming audio, which may be a song. In particular, the method reduces a volume intensity of the streaming audio and places the advertisement on top of the streaming audio, where the intensity of the advertisement covers up the streaming audio. In preferred embodiments, the streaming audio has faded and appears as background noise, where the listener to hear and understand the advertisement simultaneously with the streaming audio as background noise.</p> <p>Frerichs at 16:24-41.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
[1C] (c) if a determined time interval occurs, stopping playing of content, by the cellular device, and playing at least one	<p>Frerichs discloses if a determined time interval occurs, stopping playing of content, by the cellular device, and playing at least one of the determined advertisements, by the cellular device, the playing of the at least one determined advertisement comprising. <i>See</i> citations for claim elements 1A-B; <i>see also</i>, e.g.:</p> <p>A method for inserting advertisements into streaming audio for transmission over a world wide network of computers. The method includes transmitting audio data from a first server location to a client</p>

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of the determined advertisements, by the cellular device, the playing of the at least one determined advertisement comprising:	<p data-bbox="600 345 1927 488">location. The audio data include a flag and audio content data. The method also includes monitoring the audio data and identifying the flag on the audio data. A step of inserting an advertisement, which is based upon a user profile, into the audio data based upon the flag is also included. The method also outputs the audio content data comprising the advertisement.</p> <p data-bbox="506 508 743 537">Frerichs, Abstract.</p> <p data-bbox="600 610 1940 1154">In a specific embodiment, the network is also coupled to a plurality of content servers 105, each corresponding to a radio station with call letter, e.g., BBC, WKRZ, KQED, KGO. Each of these servers can be coupled directly to the network or through a client computer, such as client 112. Each of the servers can be similar or can also be different, depending upon the application. Each of the servers is preferably coupled to a radio station, which has a large depository of music and/or audio information, which can be communicated to the Internet and finally to client destinations. Here, the audio information is converted into a digital streaming format for transmission through the wide area network of computers. The audio data, either from an analog feed from the radio station, or from digital audio files is provided through streaming media software. The streaming media software provides the audio data to clients which request a connection to the audio data. The streaming media software sends the encoded audio to the client as a sequence of data packets. The client receives the packets and can decode the packets to then play the audio content. The present invention can utilize a variety of conventional streaming media software. As merely an example, such a tuner is described in U.S. Ser. No. 09/334,846, commonly assigned, and hereby incorporated by reference. Other types of server devices, however, can also be used.</p> <p data-bbox="506 1174 758 1203">Frerichs at 4:19-43.</p>

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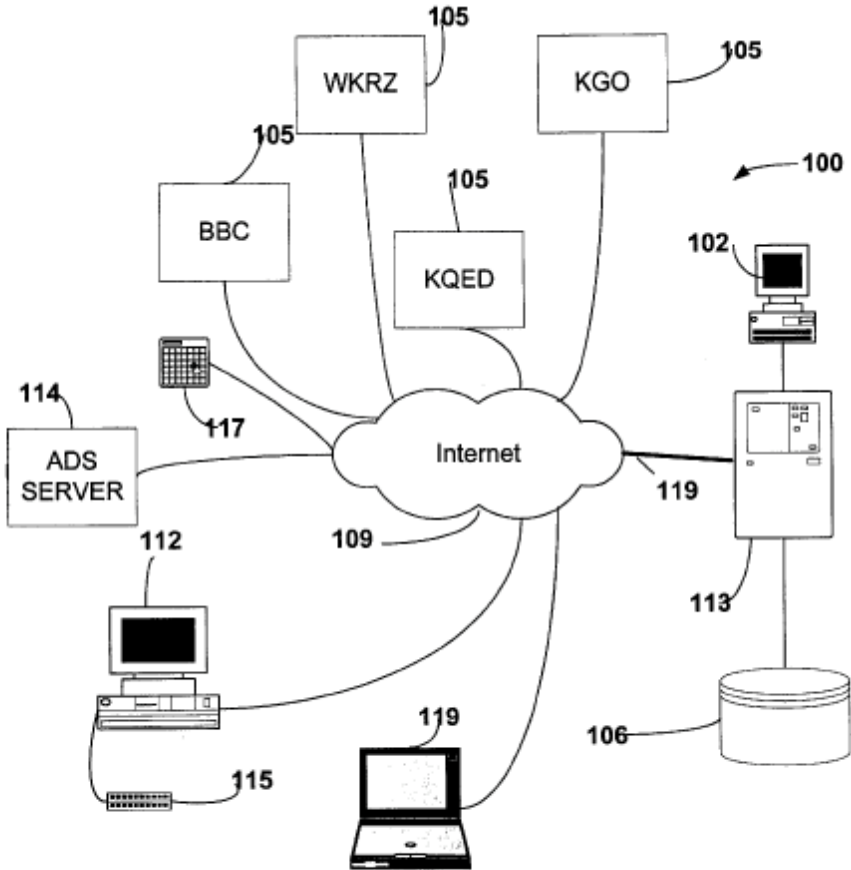
Claim	Exemplary Evidence of Anticipation and/or Obviousness
	 <p>The diagram, labeled FIG. 1, illustrates a network system. At the center is a cloud labeled "Internet" with reference numeral 109. Several entities are connected to this central cloud: three radio stations (WKRZ, KGO, and KQED) each labeled with 105; a BBC station labeled 105; a calculator labeled 117; an ADS SERVER labeled 114; a desktop computer labeled 112; a laptop labeled 119; a server rack labeled 119; and a database cylinder labeled 106. A reference numeral 100 points to the entire system. A reference numeral 115 points to a keyboard connected to the desktop computer. A reference numeral 113 points to a connection line between the server rack and the database cylinder.</p> <p>FIG. 1</p> <p>Frerichs, Fig. 1.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p>A method according to an embodiment of the present invention is briefly described below:</p> <ol style="list-style-type: none">1. Provide first audio data for first song and second audio data for second song at a server location;2. Provide flag comprising advertisement indication and delay at the server location;3. Add flag onto first audio data, which is now between the first song and second song at the server location (or other location);4. Transfer flagged first audio data and second audio data from server location to client location as streaming audio;5. Select advertisement from a user profile;6. Transfer advertisement for insertion;7. Retrieve advertisement from storage;8. Insert advertisement into streaming audio at the flagged location;9. Process streaming audio including the advertisement;10. Output first song through audio output device;11. Output advertisement through audio output device;12. Output second song through audio output device; and13. Perform additional steps, as desired. <p>Frerichs at 6:18-42.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<div data-bbox="630 373 1386 1023"><p>The diagram illustrates a data insertion method 300. It shows a timeline with three time points: T0, T1, and T2. At T0, a stream of SONG 1 (301) is shown. At T1, a FLAG (303) is inserted into SONG 1. At T2, an advertisement (ADS) is inserted into SONG 1. The ADS is received from an AD SERVER (317) via a BUFFER (315). The ADS is then stored in STORAGE (313) and retrieved by the ADS component (309). The final output at T2 is a stream containing SONG 1 (301), ADS (309), and SONG 2 (305). The entire process is labeled 300.</p></div> <p>FIG. 3</p> <p>Frerichs, Fig. 3.</p> <p>FIG. 3 is a simplified diagram of a data insertion method 300 according to an embodiment of the present invention. This diagram is merely an example which should not unduly limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and</p>

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	<p>alternatives. At a server location, the method 300 provides first audio data for a first song 301 and second audio data for a second song 305. The first audio data is provided at time T_0, which is an initial or zero time, as given only for reference purposes. As shown, the method also provides a flag comprising advertisement indication and delay at the server location. The flag is data that indicates where an advertisement is to be inserted. The flag often has other information such as the length of the advertisement, current content type (e.g. music/talk), and current ad frequency on this stream (e.g. 2 per hour).</p> <p>Frerichs at 6:57-7:5.</p> <p>As noted, the advertisement can come from one of the plurality of content servers, each corresponding to a radio station with call letter, e.g., BBC, WKRZ, KQED, KGO. Each of these servers can be coupled directly to the network or through a client computer. Each of the servers can be similar or can also be different, depending upon the application. Each of the servers is preferably coupled to a radio station, which has a large depository of music and/or audio information, which can be communicated to the Internet and finally to client destinations. Here, the audio information is converted into a digital streaming format for transmission through the wide area network of computers. The audio data, either from an analog feed from the radio station, or from digital audio files is provided through streaming media software. The streaming media software provides the audio data to clients which request a connection to the audio data. The streaming media software sends the encoded audio to the client as a sequence of data packets. The client receives the packets and can decode the packets to then play the audio content, as noted.</p> <p>Frerichs at 7:6-25.</p> <p>Next, the method adds the flag 303 onto first audio data, which is now between the first song and second song at the server location (or other location). Here, the flag can be provided at the radio station server location. Alternatively, the flag can be provided at a tuning server location or other locations. In most embodiments, the flag is provided onto the first audio data at first time T_1, where $T_1 > T_0$, which signifies</p>

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	<p>a delay 315 between the initial time and the first time. The delay can be caused by a variety of factors such as latency in the network or the like. In some embodiments, the method transfer the flagged first audio data and second audio data from server location to client location as streaming audio. In some other embodiments, the first audio data and the second audio data are transferred to a server for insertion of advertisements.</p> <p>Frerichs at 7:26-40.</p> <p>The method retrieves an advertisement 309 from storage. Here, the advertisement can be retrieved from location storage 313, which can be at the client location. Alternatively, the advertisement can be retrieved from an advertising server or other third party server 311. In some embodiments, the method may buffer 315 the advertisement and then provide it for insertion into the streaming audio. The method monitors the streaming audio for the flag 307. Once the flag has been found, the method inserts the advertisement between the first audio data and the second audio data. The streaming audio data is now ready for output at an audio output device, which is coupled to the client device. Depending upon the form of the streaming audio, the method can process streaming audio including the advertisement to make it suitable for output. Many conventional techniques can be used for converting the streaming audio into an analog signal for output on a conventional speaker, for example.</p> <p>Frerichs at 7:41-58.</p>

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	<div data-bbox="646 365 1354 950"><pre>graph LR 353[AUDIO] -- 355 --> 351[FLAG/AUDIO] 351 -- 357 --> 357(()) 359[AUTOMATION SOFTWARE] --> 361[CUSTOM SOFTWARE] 361 --> 351</pre></div> <p data-bbox="506 998 735 1031">Frerichs, Fig. 3A.</p> <p data-bbox="600 1104 1940 1388">FIG. 3A is a simplified block diagram 350 of elements for providing streaming audio including a flag according to an embodiment of the present invention. This diagram is merely an example which should not unduly limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. The block diagram often represents processes at the server side, which provides streaming audio and a flag indication for inserting an advertisement. The block diagram shows an audio source 353, which is often a large storage device for archiving music, video, or other content. The storage device can be a plurality of hard drives or disks. Alternatively, it can be in a database format. The audio source provides via branch 355 audio in the form of audio data,</p>

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	<p>which includes a first song (corresponding to first audio data), a second song (corresponding to second audio data), etc. Automation software 359 is also provided, as shown.</p> <p>Frerichs at 8:24-40.</p> <p>The automation software can be any suitable software for organizing station programming. In some embodiments, the automation software can also include scheduling features, which can also be separated from such software. Here, the scheduling software maintains a daily program and the automation software plays all the audio coming from the station except for the live voice segments, which are provided manually. The present method provides an insertion technique. The insertion technique often uses the scheduler and the automation software in one embodiment. The method drops a labeled “empty” clip into the scheduler preceding ads targeted for replacement. The clip would have a title like SBX-C-30 to mark a thirty (“30”)second commercial, for example. Here, the SBX refers to vendor (e.g. Sonicbox), C refers to commercial spot, and 30 refers to thirty seconds. The automation software outputs a real time log file (sometimes known as a Billboard file) somewhere on an intranet in the radio station, for example, and preferably on an encoder machine. The file is often updated synchronous with the change in clip name. Alternatively, the automation software can provide some programmatic interface through which the present custom event software can receive information via a custom input filter plug-in.</p> <p>Frerichs at 8:41-63.</p> <p>The custom software can insert the flag (step 351) at selected locations on the streaming audio. In one embodiment, the flag is inserted after the first song location, but before the location of the advertisement. The flag can be digital, an analog tone, or a watermark according to the embodiment. The flag can also be inserted or distributed through the location of the advertisement. The flag is often before the second song location. The streaming audio, including first audio data and second audio data, and flag is now ready for streaming over to a client or other server through the network. Once the scheduler software has the flags in the play list and the automation software is making the log file available on the</p>

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	<p>network, the flags must be translated into data which can be sent in the encoded audio stream.</p> <p>Frerichs at 8:64-9:11.</p> <p>In a specific embodiment, the custom event software actively polls the log file and looks for ad insertion flags and song titles. When a flag is found, the software interfaces to the encoder software to insert the flag into the stream in a way that is compatible with the stream type. It would be recognized that the present method can accommodate different encoding formats and different automation packages, depending upon the embodiment. As merely an example, the present custom software supports Microsoft NetShow encoders and will run on the encoder PC at the station to insert a custom SendEvent script into the audio stream whenever the name changes in the log file. Here, the software and resulting method provides full song title information in audio format. Other embodiments can also support MP3 and Real Audio formats.</p> <p>Frerichs at 9:12-26.</p> <p>Next, the method transfers the streaming audio with flag to the network, step 357. The network can be a local area network, an internet, an intranet, or the Internet. The streaming audio is transferred to the tuning server, which directs the audio to a client for output. In these embodiments, the tuning server can insert the advertisement. Alternatively, the client can also insert the advertisement. Still further the streaming audio with flag can be sent to the client, which inserts the advertisement. Alternatively, a third party server, including the tuning server, can insert the advertisement. These and other embodiments will be recognized by one of ordinary skill in the art.</p> <p>Frerichs at 9:27-38.</p> <p>A method according to an embodiment of the present invention can be briefly outlined as follows:</p> <ol style="list-style-type: none">1. Connect client (e.g., personal computer, cellular phone, personal digital assistant, work station,

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	<p>television set top box, pager, internet radio, an internet appliance) to tuning server, which is coupled to a world wide area of computers;</p> <ol style="list-style-type: none">2. Optionally, prompt and display indication on a first display portion of the client to user for a station;3. Select indication directed to a certain station from the client;4. Request connection for the certain station from the client to the tuning server through the network;5. Redirect connection from the tuning server to a URL for an audio stream of the certain station at the radio station server;6. Transfer audio stream from the radio station server to the client to play audio stream on audio output device;7. Provide first audio data for first song and second audio data for second song at the server location;8. Provide flag comprising advertisement indication and delay at the server location (or use time or top of hour configuration to decide location of advertisement);9. Add flag onto first audio data, which is now between the first song and second song at the server location (or other location);10. Transfer flagged first audio data and second audio data from server location to client location as streaming audio;11. Retrieve advertisement from storage based upon a user profile;12. Insert advertisement into streaming audio at the flagged location (or at a specific time or top of hour);13. Process streaming audio including the advertisement;14. Output first song, advertisement, and second song through audio output device; and15. Perform other steps, as desirable.

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	<p data-bbox="506 345 772 375">Frerichs at 10:17-56.</p> <p data-bbox="600 448 1927 737">These steps show an easy way to insert an advertisement into streaming audio according to the present invention. The steps can be carried out using conventional hardware and selected software. The invention can be provide the user of the client device streaming audio with advertisements inserted between songs, for example. The advertisement can be selected from one of a plurality of storage locations, such as local storage, third party storage, and many others, depending upon the embodiment. In preferred embodiments, the method provides for targeted advertisement to a user. Additionally, these steps are merely examples and should not limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives.</p> <p data-bbox="506 760 800 789">Frerichs at 10:57-11:2.</p> <p data-bbox="600 862 1940 1078">The tuning server receives the request from the client. The tuning server matches the request to a URL, which defines the station. In a specific embodiment, the tuning server uses a look up table, such as the one noted to find the station. The tuning server finds the URL receives the client's request and redirects (step 415) the client to the URL for an audio stream of the selected station at the radio station server. The radio station server is connected (step 417) to the tuning server. The radio station server receives the request and transfers (step 419) the audio stream from the radio station server to the client.</p> <p data-bbox="506 1101 772 1130">Frerichs at 11:33-42.</p> <p data-bbox="600 1203 1927 1419">The method continues to monitor the client for a change, step 423. Here, the client can change channels, stop the streaming audio transmission, and perform other functions, as well. If no change on the station is present, the method continues to maintain, step 421, and streaming audio continues to output on the client device. Alternatively, if a change is detected the method goes back to step 407, where the user selects another channel corresponding to a different radio station. Alternatively, if a change is not detected and if the user decides to stop transmission of the streaming audio, the method stops, which</p>

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	<p data-bbox="506 345 1499 423">releases the connection between the client and the radio station server. Frerichs at 11:54-65.</p> <p data-bbox="600 500 1940 1409">In a preferred embodiment, the method monitors the streaming audio for a flag, which signifies that an advertisement is to be inserted. If the method finds the flag, the advertisement is inserted, and then played out (step 420) through the audio output device. In a specific embodiment, the method uses an insertion technique such as the one noted above, but can be others. In a preferred alternative embodiment, the method monitors for a selected time to insert the advertisement. Here, the advertisement is not inserted into a delay or free spot in the streaming audio. The method finds a desired time, such as top of hour (e.g., 1:00 p.m., 2:00 p.m.) or half and hour, and outputs an advertisement at such time. The method can also insert the advertisement at a selected song or other indication, which is not a flag, in particular, The method adds the advertisement information in audio form on top of the streaming audio, which may be a song. In particular, the method reduces a volume intensity of the streaming audio and places the advertisement on top of the streaming audio, where the intensity of the advertisement covers up the streaming audio. In preferred embodiments, the streaming audio has faded and appears as background noise, where the listener to hear and understand the advertisement simultaneously with the streaming audio as background noise. Details of an insertion method are provided below according to the Figure. This sequence of steps is merely illustrative. The steps can be performed using computer software or hardware or a combination of hardware and software. Any of the above steps can also be separated or be combined, depending upon the embodiment. In some cases, the steps can also be changed in order without limiting the scope of the invention claimed herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. The above example is merely an illustration, which should not unduly limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. It is also understood that the examples and embodiments described herein are for illustrative purposes only and that various modifications or changes in light thereof will be suggested to persons skilled in the art and are to be included within the spirit and purview of this application and scope of the appended claims.</p>

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	<p data-bbox="506 344 814 373">Frerichs at 11:66-12:39.</p> <p data-bbox="602 448 1927 699">At one or more of these radio station server locations, the method provides first audio data for a first song and second audio data for a second song. The first audio data is provided at time T_0, which is an initial or zero time, as given only for reference purposes. The method also provides a flag comprising advertisement indication and delay at the server location. The flag is data that indicates where an advertisement is to be inserted. The flag often has other information such as the length of the advertisement, current content type (e.g. music/talk), and current ad frequency on this stream (e.g. 2 per hour).</p> <p data-bbox="506 721 772 750">Frerichs at 13:22-32.</p> <p data-bbox="602 824 1940 1149">Next, the method adds the flag onto first audio data, which is now between the first song and second song at the server location (or other location). Here, the flag can be provided at the radio station server location. Alternatively, the flag can be provided at a tuning server location or other locations. In most embodiments, the flag is provided onto the first audio data at first time T_1, where $T_1 > T_0$, which signifies a delay between the initial time and the first time. The delay can be caused by a variety of factors such as latency in the network or the like. In some embodiments, the method transfer the flagged first audio data and second audio data from server location to client location as streaming audio. In some other embodiments, the first audio data and the second audio data are transferred to a server for insertion of advertisements at a client location.</p> <p data-bbox="506 1170 772 1200">Frerichs at 13:33-47.</p>

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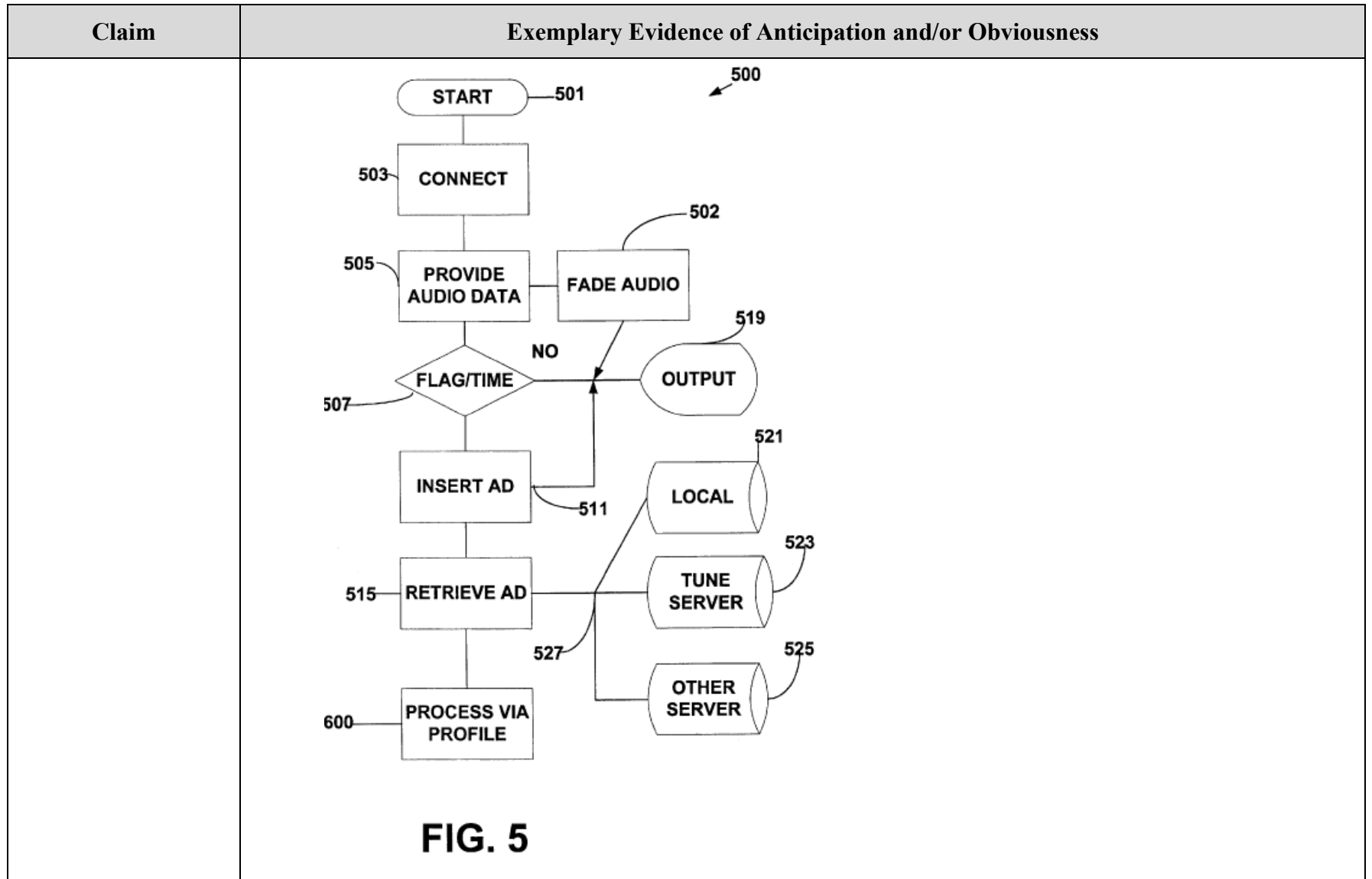


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	<p data-bbox="506 344 709 375">Frerichs, Fig. 5.</p> <p data-bbox="600 448 1942 808">Next, the method retrieves an advertisement 515 from storage 527. Here, the advertisement can be retrieved from location storage 521, which can be at the client location. Alternatively, the advertisement can be retrieved from an advertising server or other third party server 525. Alternatively, the advertisement can be retrieved from the tuning server 523. The method monitors (step 507) the streaming audio for the flag. Once the flag has been found, the method inserts (step 511) the advertisement between the first audio data and the second audio data. The streaming audio data is now ready for output at an audio output device, which is coupled to the client device. Depending upon the form of the streaming audio, the method can process streaming audio including the advertisement to make it suitable for output. Many conventional techniques can be used for converting the streaming audio into an analog signal for output on a conventional speaker, for example.</p> <p data-bbox="506 829 772 860">Frerichs at 13:48-64.</p> <p data-bbox="600 933 1942 1294">In a preferred alternative embodiment, the method monitors (step 507) for a selected time to insert the advertisement. Here, the advertisement is not inserted into a delay or free spot in the streaming audio. The method finds a desired time, such as top of hour (e.g., 1:00 p.m., 2:00 p.m.) or half and hour, and outputs an advertisement at such time. The method can also insert the advertisement at a selected song or other indication, which is not a flag, in particular, The method adds the advertisement information in audio form on top of the streaming audio, which may be a song. In particular, the method reduces a volume intensity of the streaming audio and places the advertisement on top of the streaming audio, where the intensity of the advertisement covers up the streaming audio. In preferred embodiments, the streaming audio has faded and appears as background noise, where the listener to hear and understand the advertisement simultaneously with the streaming audio as background noise.</p> <p data-bbox="506 1315 814 1346">Frerichs at 13:65-14:14.</p>

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	<p>FIG. 6 is a simplified diagram of a method 600 for selecting an advertisement for streaming audio according to an embodiment of the present invention. This diagram is merely an example, which should not unduly limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, alternatives, and modifications. Like reference numerals are used in this Figure. as the previous Figure. for easy cross referencing, but are not intended to be limiting. As shown, the method begins at start, step 601. The method downloads a plurality of advertisements, which have been stored in memory. Here, the advertisement can be retrieved from location storage 521, which can be at the client location. Alternatively, the advertisement can be retrieved from an advertising server or other third party server 525. Alternatively, the advertisement can be retrieved from the tuning server 523.</p> <p>Frerichs at 15:24-39.</p> <p>In some embodiments, the advertisements are selected based upon a user profile (step 607). The user profile can include information derived from a user registration process. The user registration process can derive information such as, for example, sex, age, hobbies, geographic region, race, religion, health, and sexual orientation. Other information can also be derived from the stations being selected as well as use of such stations during the time of day, for example. The user profile information can also include any other information which can be used to provide a more desirable advertisement or information to the user. The user profile is used to query memory and retrieve advertisements that match or should be desirable to the user.</p> <p>Frerichs at 15:40-52.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<div data-bbox="598 342 1375 927"><pre>graph TD 601([START]) --> 603[DOWNLOAD ADS] 603 --> 605[RANDOMIZE] 605 --> 609[BUFFER] 609 --> 515[RETRIEVE AD] 515 --> 511[INSERT AD] 511 --> NEXT[→NEXT STEPS] 607[PROCESS VIA PROFILE] --> 603 607 --> 605 607 --> 609 603 --- 600[600] 600 --- 521[(LOCAL)] 600 --- 523[(TUNE SERVER)] 600 --- 525[(OTHER SERVER)]</pre><p>The flowchart, labeled FIG. 6, illustrates a process for advertising selection. It begins with a 'START' terminal (601) leading to a 'DOWNLOAD ADS' block (603). This block is connected to three data sources: 'LOCAL' (521), 'TUNE SERVER' (523), and 'OTHER SERVER' (525), all under the reference numeral 600. The process continues to 'RANDOMIZE' (605), then 'BUFFER' (609), 'RETRIEVE AD' (515), and finally 'INSERT AD' (511), which leads to 'NEXT STEPS'. A side block 'PROCESS VIA PROFILE' (607) has arrows pointing to the 'DOWNLOAD ADS' (603), 'RANDOMIZE' (605), and 'BUFFER' (609) blocks.</p></div> <p data-bbox="940 1060 1066 1105">FIG. 6</p> <p data-bbox="506 1157 709 1190">Frerichs, Fig. 6.</p> <p data-bbox="598 1263 1864 1403">Once the desired advertisements have been downloaded, the method randomizes (step 605) the advertisements to select one of the advertisements for output. Here, the method can use a random number generator approach to select the advertisement. Alternatively, the method can select the advertisement based upon other information in the user profile, step 607. For example, the selected</p>

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	<p>advertisement can be desirable for outputting at a selected time of day, e.g., morning, night, afternoon. The advertisement is then outputted to an audio stream process, step 509, which could hold the advertisement in a buffer. Next, the method retrieves the advertisement (step 515) from buffer, and inserts (step 511) the advertisement into the streaming audio.</p> <p>Frerichs at 15:53-65.</p> <p>Here, the method monitors the streaming audio for the flag. Once the flag has been found, the method inserts the advertisement between the first audio data and the second audio data. The streaming audio data is now ready for output at an audio output device, which is coupled to the client device. Depending upon the form of the streaming audio, the method can process streaming audio including the advertisement to make it suitable for output. Many conventional techniques can be used for converting the streaming audio into an analog signal for output on a conventional speaker, for example.</p> <p>Frerichs at 15:66-16:9.</p> <p>Next, the method outputs the first song through audio output device. The method output the advertisement through audio output device; and the method output the second song through audio output device. Often times, the first song is outputted at second time T_2, where $T_2 > T_1$, which signifies a delay between the first time and the second time. The delay can be caused by a variety of factors such as latency in the network or the like. The delay also can be selectively caused by way of a buffer or cache and the like. The streaming audio, which is output, includes first song, advertisement, and second song, which is output in a continuous manner. Depending upon the embodiment, the method continues to perform additional steps, as desired, or even repeats previous steps.</p> <p>Frerichs at 16:10-23.</p> <p>In a preferred alternative embodiment, the method monitors for a selected time to insert the</p>

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	<p>advertisement, which is based upon the user profile. Here, the advertisement is not inserted into a delay or free spot in the streaming audio. The method finds a desired time, such as top of hour (e.g., 1:00 p.m., 2:00 p.m.) or half and hour, and outputs an advertisement at such time. The method can also insert the advertisement at a selected song or other indication, which is not a flag, in particular, The method adds the advertisement information in audio form on top of the streaming audio, which may be a song. In particular, the method reduces a volume intensity of the streaming audio and places the advertisement on top of the streaming audio, where the intensity of the advertisement covers up the streaming audio. In preferred embodiments, the streaming audio has faded and appears as background noise, where the listener to hear and understand the advertisement simultaneously with the streaming audio as background noise.</p> <p>Frerichs at 16:24-41.</p> <p><i>See also</i> citations for claim element 1D.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
[1D] recording, by the cellular device, the content which playing was stopped, while the at least one determined advertisement is playing; and	<p>Frerichs discloses recording, by the cellular device, the content which playing was stopped, while the at least one determined advertisement is playing; and</p> <p>when the playing of the at least one determined advertisement is completed, resuming the playing of the stopped content, by the cellular device, from where the stopped content, by the cellular device, from where the stopping of the playing of the content occurred, using the recorded content. <i>See</i> citations for claim element 1C; <i>see also</i>, e.g.:</p>

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when the playing of the at least one determined advertisement is completed, resuming the playing of the stopped content, by the cellular device, from where the stopped content, by the cellular device, from where the stopping of the playing of the content occurred, using the recorded content.	<div data-bbox="630 373 1386 1023"><p>The diagram illustrates a data insertion method 300. It shows a sequence of events over time, marked by T0, T1, and T2. At T0, a bar labeled 'SONG 1' (301) is shown. An arrow labeled 315 points from T0 to T1. At T1, the 'SONG 1' bar (301) is shown with a 'FLAG' (303) at its end. An arrow labeled 317 points from the flag to a 'BUFFER' box. The 'BUFFER' box is connected to an 'AD SERVER' box (311) and a 'STORAGE' box (313). An arrow labeled 309 points from the 'STORAGE' box to an 'ADS' box. An arrow labeled 315 points from the 'ADS' box to T2. At T2, a bar is shown divided into three segments: 'SONG 1' (301), 'ADS' (309), and 'SONG 2' (305). Above the ADS segment, there is a 'FLAG' (303) and a '305' label. To the right of the ADS segment, there is a '305' label. Above the SONG 2 segment, there is a '305' label. A '300' label with an arrow points to the overall process.</p></div> <p>FIG. 3</p> <p>Frerichs, Fig. 3.</p> <p>FIG. 3 is a simplified diagram of a data insertion method 300 according to an embodiment of the present invention. This diagram is merely an example which should not unduly limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and</p>

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	<p>alternatives. At a server location, the method 300 provides first audio data for a first song 301 and second audio data for a second song 305. The first audio data is provided at time T_0, which is an initial or zero time, as given only for reference purposes. As shown, the method also provides a flag comprising advertisement indication and delay at the server location. The flag is data that indicates where an advertisement is to be inserted. The flag often has other information such as the length of the advertisement, current content type (e.g. music/talk), and current ad frequency on this stream (e.g. 2 per hour).</p> <p>Frerichs at 6:57-7:5.</p> <p>As noted, the advertisement can come from one of the plurality of content servers, each corresponding to a radio station with call letter, e.g., BBC, WKRZ, KQED, KGO. Each of these servers can be coupled directly to the network or through a client computer. Each of the servers can be similar or can also be different, depending upon the application. Each of the servers is preferably coupled to a radio station, which has a large depository of music and/or audio information, which can be communicated to the Internet and finally to client destinations. Here, the audio information is converted into a digital streaming format for transmission through the wide area network of computers. The audio data, either from an analog feed from the radio station, or from digital audio files is provided through streaming media software. The streaming media software provides the audio data to clients which request a connection to the audio data. The streaming media software sends the encoded audio to the client as a sequence of data packets. The client receives the packets and can decode the packets to then play the audio content, as noted.</p> <p>Frerichs at 7:6-25.</p> <p>Next, the method adds the flag 303 onto first audio data, which is now between the first song and second song at the server location (or other location). Here, the flag can be provided at the radio station server location. Alternatively, the flag can be provided at a tuning server location or other locations. In most embodiments, the flag is provided onto the first audio data at first time T_1, where $T_1 > T_0$, which signifies</p>

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	<p>a delay 315 between the initial time and the first time. The delay can be caused by a variety of factors such as latency in the network or the like. In some embodiments, the method transfer the flagged first audio data and second audio data from server location to client location as streaming audio. In some other embodiments, the first audio data and the second audio data are transferred to a server for insertion of advertisements.</p> <p>Frerichs at 7:26-40.</p> <p>The method retrieves an advertisement 309 from storage. Here, the advertisement can be retrieved from location storage 313, which can be at the client location. Alternatively, the advertisement can be retrieved from an advertising server or other third party server 311. In some embodiments, the method may buffer 315 the advertisement and then provide it for insertion into the streaming audio. The method monitors the streaming audio for the flag 307. Once the flag has been found, the method inserts the advertisement between the first audio data and the second audio data. The streaming audio data is now ready for output at an audio output device, which is coupled to the client device. Depending upon the form of the streaming audio, the method can process streaming audio including the advertisement to make it suitable for output. Many conventional techniques can be used for converting the streaming audio into an analog signal for output on a conventional speaker, for example.</p> <p>Frerichs at 7:41-58.</p> <p>Next, the method outputs the first song through audio output device. The method output the advertisement through audio output device; and the method output the second song through audio output device. As shown, the first song is outputted at second time T_2, where $T_2 > T_0$, which signifies a delay 317 between the first time and the second time. The delay can be caused by a variety of factors such as latency in the network or the like. The delay also can be selectively caused by way of a buffer or cache and the like. As shown, the streaming audio, which is output, includes first song 301, advertisement 309, and second song 305, which is output in a continuous manner. Depending upon the embodiment, the method continues to perform additional steps, as desired, or even repeats previous</p>

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	<p>steps.</p> <p>Frerichs at 7:59-8:5.</p> <p>Next, the method outputs (step 519) the first song through audio output device. The method output the advertisement through audio output device; and the method output the second song through audio output device. Often times, the first song is outputted at second time T_2, where $T_2 > T_1$, which signifies a delay between the first time and the second time. The delay can be caused by a variety of factors such as latency in the network or the like. The delay also can be selectively caused by way of a buffer or cache and the like. The streaming audio, which is output, includes first song, advertisement, and second song, which is output in a continuous manner. Depending upon the embodiment, the method continues to perform additional steps, as desired, or even repeats previous steps.</p> <p>Frerichs at 14:26-39.</p> <p>In still an alternative embodiment, the present method provides for an advertisement insertion, such as the one noted above, during a buffer time, which is shown in the simplified diagram of FIG. 5B. Here, a user turns on the audio device and switches onto a station. Since there is delay in the network, a certain buffer time 575 conventionally exists. As shown, the vertical axis represents intensity and the horizontal axis, which intersects the vertical axis, represents time. The buffer time is “dead time” where no audio is outputted on the audio output device. The user often waits and listens to a “hiss” sound or the like. During the buffer time, which occurs in conventional techniques, the present method inserts an advertisement, which is between $T(0)$ and $(T1)$. The method can calculate the difference between $T(0)$ and $(T1)$ and find an advertisement (as shown) with a similar time (but may be different) to insert at the beginning of the listening session, but before the song (also as shown). Accordingly, the present invention can be used at the beginning of any audio session for audio streaming at a client location.</p> <p>Frerichs at 14:54-15:6.</p>

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	<p data-bbox="604 394 1906 683">Once the desired advertisements have been downloaded, the method randomizes (step 605) the advertisements to select one of the advertisements for output. Here, the method can use a random number generator approach to select the advertisement. Alternatively, the method can select the advertisement based upon other information in the user profile, step 607. For example, the selected advertisement can be desirable for outputting at a selected time of day, e.g., morning, night, afternoon. The advertisement is then outputted to an audio stream process, step 509, which could hold the advertisement in a buffer. Next, the method retrieves the advertisement (step 515) from buffer, and inserts (step 511) the advertisement into the streaming audio.</p> <p data-bbox="510 704 772 732">Frerichs at 15:53-65.</p> <p data-bbox="604 808 1927 1024">Here, the method monitors the streaming audio for the flag. Once the flag has been found, the method inserts the advertisement between the first audio data and the second audio data. The streaming audio data is now ready for output at an audio output device, which is coupled to the client device. Depending upon the form of the streaming audio, the method can process streaming audio including the advertisement to make it suitable for output. Many conventional techniques can be used for converting the streaming audio into an analog signal for output on a conventional speaker, for example.</p> <p data-bbox="510 1045 800 1073">Frerichs at 15:66-16:9.</p> <p data-bbox="604 1149 1938 1399">Next, the method outputs the first song through audio output device. The method output the advertisement through audio output device; and the method output the second song through audio output device. Often times, the first song is outputted at second time T_2, where $T_2 > T_1$, which signifies a delay between the first time and the second time. The delay can be caused by a variety of factors such as latency in the network or the like. The delay also can be selectively caused by way of a buffer or cache and the like. The streaming audio, which is output, includes first song, advertisement, and second song, which is output in a continuous manner. Depending upon the embodiment, the method continues to</p>

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	<p>perform additional steps, as desired, or even repeats previous steps.</p> <p>Frerichs at 16:10-23.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p> <p>For instance, Frerichs discloses that advertisements may be retrieved from storage at the client location, and further discloses that the client device may provide buffering and caching functionality. Frerichs at 7:41-8:5. In addition, Frerichs discloses outputting the first song, advertisement, and second song “in a continuous manner.” <i>Id.</i> at 7:59-8:5. To enable the client device to output the advertisements and media content “in a continuous manner,” as disclosed in Frerichs, it would have been obvious to a person of ordinary skill in the art to buffer the media content while the advertisement is playing, as was well known in the art. <i>See, e.g.</i>, ’414 chart for Brown at claim element 1D; Szczublewski at 1:13-26, 2:14-23, 3:20-4:48, 5:41-50; Fig. 2. Buffering the media content while the advertisement was playing would have been an obvious design choice from among a limited set of options.</p> <p>To the extent a combination is required, it would have been obvious for a person of ordinary skill in the art to combine Frerichs with the teachings of Brown. Brown discloses methods and systems for dynamically inserting targeted advertising content into streaming media, such as a radio broadcast. Brown, Abstract. In one example, Brown discloses buffering the broadcast stream while an advertisement is playing, and then playing the recorded broadcast content after the advertisement has concluded. <i>Id.</i> at 8:52-9:6 (“Based on the known length of the ad block, the Windows Media Player begins buffering the broadcast stream when it determines that it is nearing the end of the ad block. When the Windows Media Player detects that the last buffered ad has been played or when the Windows Media Player detects a close_event tag, the Windows Media Player stops playing the ad stream and begins playing the broadcast stream.”); <i>id.</i> at 2:34-40 (“the switching is accomplished through</p>

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	<p>one instantiated media player by terminating the broadcast stream and beginning to play the buffered ad stream, and then buffering and playing the broadcast stream again when the media player determines that the ad stream is to be terminated”); <i>see also</i> ’414 chart for Brown at claim element 1D.</p> <p>To the extent it is determined that Frerichs does not sufficiently disclose recording the content while the at least one determined advertisement is playing, and resuming playback using the recorded content, one of ordinary skill would have been motivated to combine Frerichs with the teachings of Brown, which expressly discloses this basic concept. Frerichs and Brown both belong to the same field of endeavor (targeted advertising), and both are specifically directed to the challenge of inserting advertisements into streaming content, such as radio broadcasts. <i>See</i> ’414 chart for Brown at claim elements 1A-C. Applying the teachings of Brown would have involved nothing more than the application of known techniques to a known method ready for improvement to yield predictable results. A person of ordinary skill reviewing Frerichs would have readily appreciated that applying Brown’s teachings regarding the buffering of broadcast content while an advertisement is playing would facilitate the goal of outputting the advertising and broadcast content in a continuous manner, as disclosed in Frerichs.</p> <p>In addition, to the extent a combination is required, it would have been obvious for a person of ordinary skill in the art to combine Frerichs with the teachings of Kauffman. Kauffman is generally directed to an “arrangement for inserting advertisement media into a streaming multimedia file.” Kauffman, Abstract. Kauffman’s arrangement “uses a caching inserter including a first cache for storing a loaded advertisement file and a second cache for holding the streaming multimedia file that needs to be buffered as the advertisement file is sent to the end-user.” <i>Id.</i> Kauffman explains that the caching inserter “is disposed at a local point of presence (POP) which intercepts a video stream destined for an end user.” <i>Id.</i> at [0007]. The local point of presence may be “disposed in a communication[] device at an end-user location” such as a “residential set-top box.” <i>Id.</i>, cls. 2, 12, 17, 18. “When insertion of advertising ... is desired, the video stream is stored/buffered at the local POP and the advertisement is played. When the ad is completed, the first stream is then played out of the buffer.” <i>Id.</i> at [0007]; <i>id.</i> at [0020] (“Once caching inserter 30 has an advertisement file available (either stored, or available as a stream from the advertisement server), the incoming (requested) multimedia file destined for end-user 10 can</p>

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	<p>be cached, and the advertisement multimedia file streamed in its place to end-user 10 in a seamless manner.”); <i>id.</i> (the “multimedia file itself is not stopped at any point, but is continuously cached by caching inserter 30 as it is received from streaming media server 26”); <i>see also id.</i> at [0001], [0005], [0007-09], [0016-20], [0022], [0024-25]; <i>id.</i>, cls. 2, 12, 17, 18; Figs. 1, 3.</p> <p>To the extent it is determined that Frerichs does not sufficiently disclose recording the content while the at least one determined advertisement is playing, and resuming playback using the recorded content, one of ordinary skill would have been motivated to combine Frerichs with the teachings of Kauffman, which expressly discloses this basic concept. <i>See</i> Kauffman at [0001], [0005], [0007-09], [0016-20], [0022], [0024-25]; <i>id.</i>, cls. 2, 12, 17, 18. Frerichs and Kauffman both belong to the same field of endeavor (targeted advertising), and both are specifically directed to the challenge of inserting advertisements into streaming content, such as radio broadcasts. Applying the teachings of Kauffman would have involved nothing more than the application of known techniques to a known method ready for improvement to yield predictable results. A person of ordinary skill reviewing Frerichs would have readily appreciated that applying Kauffman’s teachings regarding the buffering of streaming content while an advertisement is playing would facilitate the goal of outputting the advertising and broadcast content in a continuous manner, as disclosed in Frerichs.</p>
2. The method of claim 1, wherein the provided information additionally includes at least one of the group consisting of a preference of a user of the cellular device, a demographic data of the cellular device, content played on the cellular device, or a geographic location of the cellular device.	<p>Frerichs discloses the method of claim 1, wherein the provided information additionally includes at least one of the group consisting of a preference of a user of the cellular device, a demographic data of the cellular device, content played on the cellular device, or a geographic location of the cellular device. <i>See</i> citations for claim element 1A and claim 1PRE; <i>see also, e.g.:</i></p> <p style="padding-left: 40px;">This invention generally relates to techniques for broadcasting information through a wide area network of computers. More particularly, the present invention provides a method and device for inserting a targeted advertisement based upon a user profile through streaming audio. Merely by way of example, the present invention is implemented using a personal computer, but it would be recognized that the</p>

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<p>device, a demographic data of the cellular device, content played on the cellular device, or a geographic location of the cellular device.</p>	<p>invention has a much broader range of applicability. The invention can be applied to other computing devices, such as cellular phones, internet appliances, personal digital assistants, laptop computers, set top boxes, television, and the like.</p> <p>Frerichs at 1:8-20.</p> <p>According to the present invention, a technique including a method and device for streaming audio output is provided. More particularly, the invention provides a method and device for inserting targeted advertisement into streaming audio at a client location such as a personal computer. The invention also can be applied to other types of client devices such as personal digital assistants, internet appliances, internet radio, cellular phones, and the like.</p> <p>Frerichs at 2:13-20.</p> <p>The advertisement, which is one of a plurality of advertisements, is based upon a user profile to provide a targeted advertisement to the user. The advertisement has been based upon a user profile. The user profile can be derived from a selected channel (e.g., jazz, rock, blues, Japanese, French) and other factors, e.g., geography, user registration information (e.g., sex, age).</p> <p>Frerichs at 2:31-37.</p> <p>In a specific embodiment, the customized software also provides for targeted advertisements based upon a user profile. Here, the software recognizes a unique identification number (ID) on the server and an associated demographic. The demographic is built from volunteered information and from monitoring of user listening patterns. When the streaming audio begins, the software checks for the most recent list of advertisement sequences available for that user. The list of sequences is generated by first matching the user demographic with the currently running advertisement sequences, for example. The software also checks to see how many times each advertisement has been heard by the user. The information is</p>

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	<p data-bbox="604 345 1902 410">summarized in an available advertisement list that contains the relevant ad sequences, their associated audio tracks, and the number of times each track can still be heard by this listener before they expire.</p> <p data-bbox="510 435 758 459">Frerichs at 9:39-54.</p> <p data-bbox="604 540 1902 751">The tuning server is a [sic] often a suitable computer connected to a local or worldwide network of computers. It maintains databases some of which contain various relevant information relating to internet radio stations and internet radio listeners. The tuning server may also compile statistics and/or add data to databases relating to user activity and requests. The tuning server also responds to requests made by the client for information. There are many possible implementations of the tuning server and client such that the server can provide information to the client on request.</p> <p data-bbox="510 776 772 800">Frerichs at 11:33-42.</p> <p data-bbox="604 881 1934 1166">In a specific embodiment, the method retrieves the advertisement, which has been selected based upon a user profile (step 600). The user profile can include information derived from a user registration process. The user registration process can derive information such as, for example, sex, age, hobbies, geographic region, race, religion, health, and sexual orientation. Other information can also be derived from the stations being selected as well as use of such stations during the time of day, for example. The user profile information can also include any other information which can be used to provide a more desirable advertisement or information to the user. Since the user is at a specific client location, the advertisement can be targeted to the user. Details of such user profile process is provided below.</p> <p data-bbox="510 1190 772 1214">Frerichs at 14:40-53.</p> <p data-bbox="604 1295 1927 1395">In some embodiments, the advertisements are selected based upon a user profile (step 607). The user profile can include information derived from a user registration process. The user registration process can derive information such as, for example, sex, age, hobbies, geographic region, race, religion, health,</p>

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	<p>and sexual orientation. Other information can also be derived from the stations being selected as well as use of such stations during the time of day, for example. The user profile information can also include any other information which can be used to provide a more desirable advertisement or information to the user. The user profile is used to query memory and retrieve advertisements that match or should be desirable to the user.</p> <p>Frerichs at 15:40-52.</p> <p>Once the desired advertisements have been downloaded, the method randomizes (step 605) the advertisements to select one of the advertisements for output. Here, the method can use a random number generator approach to select the advertisement. Alternatively, the method can select the advertisement based upon other information in the user profile, step 607. For example, the selected advertisement can be desirable for outputting at a selected time of day, e.g., morning, night, afternoon. The advertisement is then outputted to an audio stream process, step 509, which could hold the advertisement in a buffer. Next, the method retrieves the advertisement (step 515) from buffer, and inserts (step 511) the advertisement into the streaming audio.</p> <p>Frerichs at 15:53-65.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p> <p><i>See also</i> obviousness discussion for claim element 1A.</p>

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<p>3. The method of claim 2 wherein the provided information additionally includes at least one selected from the group consisting of a game played on the cellular device, a radio station broadcast received by the cellular device, or a television station broadcast received by the cellular device.</p>	<p>Frerichs discloses the method of claim 1, wherein the provided information additionally includes at least one of the group consisting of a preference of a user of the cellular device, a demographic data of the cellular device, content played on the cellular device, or a geographic location of the cellular device. <i>See</i> citations for claim 1PRE, claim element 1A, and claim 2; <i>see also, e.g.:</i></p> <p style="padding-left: 40px;">This invention generally relates to techniques for broadcasting information through a wide area network of computers. More particularly, the present invention provides a method and device for inserting a targeted advertisement based upon a user profile through streaming audio. Merely by way of example, the present invention is implemented using a personal computer, but it would be recognized that the invention has a much broader range of applicability. The invention can be applied to other computing devices, such as cellular phones, internet appliances, personal digital assistants, laptop computers, set top boxes, television, and the like.</p> <p>Frerichs at 1:8-20.</p> <p style="padding-left: 40px;">From the above, it is seen that an improved way to transmit and control radio station information is highly desirable.</p> <p>Frerichs at 2:8-10.</p> <p style="padding-left: 40px;">According to the present invention, a technique including a method and device for streaming audio output is provided. More particularly, the invention provides a method and device for inserting targeted advertisement into streaming audio at a client location such as a personal computer. The invention also can be applied to other types of client devices such as personal digital assistants, internet appliances, internet radio, cellular phones, and the like.</p> <p>Frerichs at 2:13-20.</p>

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	<p data-bbox="604 394 1927 537">The advertisement, which is one of a plurality of advertisements, is based upon a user profile to provide a targeted advertisement to the user. The advertisement has been based upon a user profile. The user profile can be derived from a selected channel (e.g., jazz, rock, blues, Japanese, French) and other factors, e.g., geography, user registration information (e.g., sex, age).</p> <p data-bbox="506 558 758 586">Frerichs at 2:31-37.</p> <p data-bbox="604 662 1940 1203">In a specific embodiment, the network is also coupled to a plurality of content servers 105, each corresponding to a radio station with call letter, e.g., BBC, WKRZ, KQED, KGO. Each of these servers can be coupled directly to the network or through a client computer, such as client 112. Each of the servers can be similar or can also be different, depending upon the application. Each of the servers is preferably coupled to a radio station, which has a large depository of music and/or audio information, which can be communicated to the Internet and finally to client destinations. Here, the audio information is converted into a digital streaming format for transmission through the wide area network of computers. The audio data, either from an analog feed from the radio station, or from digital audio files is provided through streaming media software. The streaming media software provides the audio data to clients which request a connection to the audio data. The streaming media software sends the encoded audio to the client as a sequence of data packets. The client receives the packets and can decode the packets to then play the audio content. The present invention can utilize a variety of conventional streaming media software. As merely an example, such a tuner is described in U.S. Ser. No. 09/334,846, commonly assigned, and hereby incorporated by reference. Other types of server devices, however, can also be used.</p> <p data-bbox="506 1227 758 1255">Frerichs at 4:19-43.</p>

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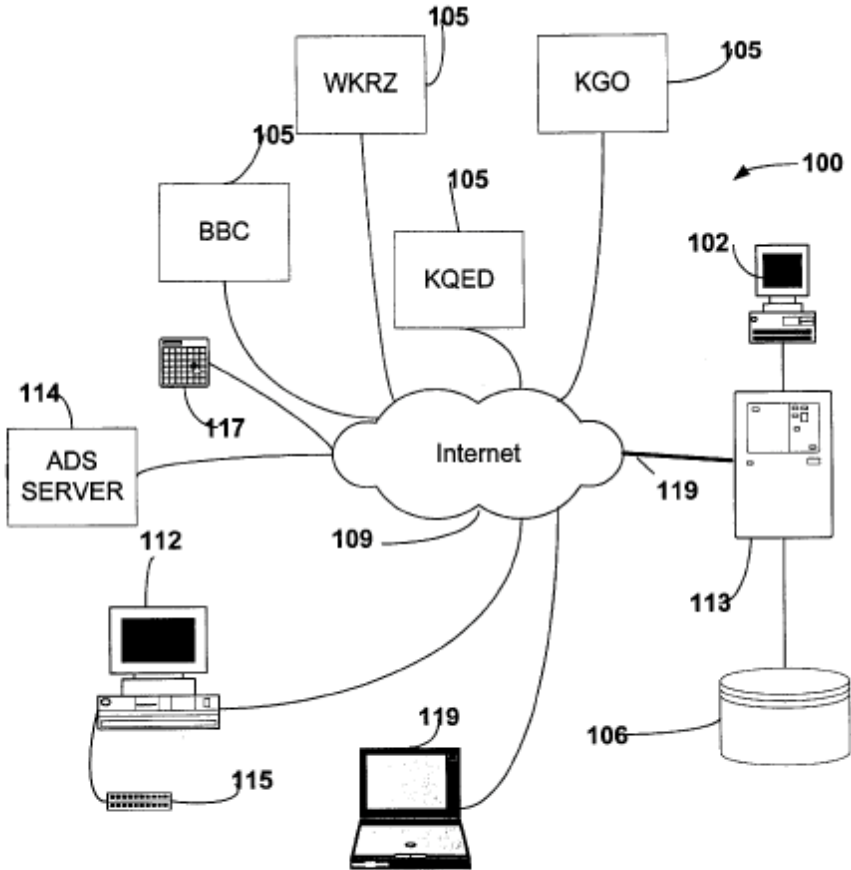
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	 <p>The diagram, labeled FIG. 1, illustrates a network system. At the center is a cloud labeled "Internet" with reference numeral 109. Several entities are connected to this central cloud: <ul style="list-style-type: none">Five radio stations: WKRZ (105), KGO (105), BBC (105), KQED (105), and another station (105) at the top.An "ADS SERVER" (114) connected via a keyboard (117).A desktop computer (112) connected via a monitor and system unit.A laptop computer (119) connected via a screen and base.A server rack (119) connected via a vertical bus (113) to a storage unit (106).A mobile device (102) connected via a screen and base.Reference numeral 100 points to the overall system. Reference numeral 115 points to a peripheral device connected to the desktop computer (112).</p> <p>FIG. 1</p> <p>Frerichs, Fig. 1.</p>

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	<p>As noted, the advertisement can come from one of the plurality of content servers, each corresponding to a radio station with call letter, e.g., BBC, WKRZ, KQED, KGO. Each of these servers can be coupled directly to the network or through a client computer. Each of the servers can be similar or can also be different, depending upon the application. Each of the servers is preferably coupled to a radio station, which has a large depository of music and/or audio information, which can be communicated to the Internet and finally to client destinations. Here, the audio information is converted into a digital streaming format for transmission through the wide area network of computers. The audio data, either from an analog feed from the radio station, or from digital audio files is provided through streaming media software. The streaming media software provides the audio data to clients which request a connection to the audio data. The streaming media software sends the encoded audio to the client as a sequence of data packets. The client receives the packets and can decode the packets to then play the audio content, as noted.</p> <p>Frerichs at 7:6-25.</p> <p>In a specific embodiment, the customized software also provides for targeted advertisements based upon a user profile. Here, the software recognizes a unique identification number (ID) on the server and an associated demographic. The demographic is built from volunteered information and from monitoring of user listening patterns. When the streaming audio begins, the software checks for the most recent list of advertisement sequences available for that user. The list of sequences is generated by first matching the user demographic with the currently running advertisement sequences, for example. The software also checks to see how many times each advertisement has been heard by the user. The information is summarized in an available advertisement list that contains the relevant ad sequences, their associated audio tracks, and the number of times each track can still be heard by this listener before they expire.</p> <p>Frerichs at 9:39-54.</p>

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	<p data-bbox="604 345 1911 557">The tuning server is a [sic] often a suitable computer connected to a local or worldwide network of computers. It maintains databases some of which contain various relevant information relating to internet radio stations and internet radio listeners. The tuning server may also compile statistics and/or add data to databases relating to user activity and requests. The tuning server also responds to requests made by the client for information. There are many possible implementations of the tuning server and client such that the server can provide information to the client on request.</p> <p data-bbox="510 578 772 605">Frerichs at 11:33-42.</p> <p data-bbox="604 686 1927 1117">Once the connection is made, streaming audio (step 505) is provided. Here, the streaming audio can be provided from one of a plurality of audio content sources. Each radio station server may include a call letter, e.g., BBC, WKRZ, KQED, KGO. Each of these servers can be coupled directly to the network or through a client computer. Each of the servers can be similar or can also be different, depending upon the application. Each of the servers is preferably coupled to a radio station, which has a large depository of music and/or audio information, which can be communicated to the Internet and finally to client destinations. Here, the audio information is converted into a digital streaming format for transmission through the wide area network of computers. The audio data, either from an analog feed from the radio station, or from digital audio files is provided through streaming media software. The streaming media software provides the audio data to clients which request a connection to the audio data. The streaming media software sends the encoded audio to the client as a sequence of data packets. The client receives the packets and can decode the packets to then play the audio content.</p> <p data-bbox="510 1138 758 1166">Frerichs at 13:1-21.</p> <p data-bbox="604 1247 1896 1414">At one or more of these radio station server locations, the method provides first audio data for a first song and second audio data for a second song. The first audio data is provided at time T_0, which is an initial or zero time, as given only for reference purposes. The method also provides a flag comprising advertisement indication and delay at the server location. The flag is data that indicates where an advertisement is to be inserted. The flag often has other information such as the length of the</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p data-bbox="600 344 1927 412">advertisement, current content type (e.g. music/talk), and current ad frequency on this stream (e.g. 2 per hour).</p> <p data-bbox="506 431 772 461">Frerichs at 13:22-32.</p> <p data-bbox="600 591 1938 880">In a specific embodiment, the method retrieves the advertisement, which has been selected based upon a user profile (step 600). The user profile can include information derived from a user registration process. The user registration process can derive information such as, for example, sex, age, hobbies, geographic region, race, religion, health, and sexual orientation. Other information can also be derived from the stations being selected as well as use of such stations during the time of day, for example. The user profile information can also include any other information which can be used to provide a more desirable advertisement or information to the user. Since the user is at a specific client location, the advertisement can be targeted to the user. Details of such user profile process is provided below.</p> <p data-bbox="506 899 772 928">Frerichs at 14:40-53.</p> <p data-bbox="600 1003 1938 1292">In some embodiments, the advertisements are selected based upon a user profile (step 607). The user profile can include information derived from a user registration process. The user registration process can derive information such as, for example, sex, age, hobbies, geographic region, race, religion, health, and sexual orientation. Other information can also be derived from the stations being selected as well as use of such stations during the time of day, for example. The user profile information can also include any other information which can be used to provide a more desirable advertisement or information to the user. The user profile is used to query memory and retrieve advertisements that match or should be desirable to the user.</p> <p data-bbox="506 1312 772 1341">Frerichs at 15:40-52.</p>

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	<p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p> <p><i>See also</i> obviousness discussion for claim element 1A.</p>
<p>4. The method of claim 1, wherein the playing of at least one determined advertisement further comprises:</p> <p>(a) receiving from the server, by the cellular device, the at least one determined advertisement prior to the playing of the at least one determined advertisement; and</p> <p>(b) recording, by the cellular device, at</p>	<p>Frerichs discloses the method of claim 1, wherein the playing of at least one determined advertisement further comprises:</p> <p>(a) receiving from the server, by the cellular device, the at least one determined advertisement prior to the playing of the at least one determined advertisement; and</p> <p>(b) recording, by the cellular device, at least one of the at least one determined advertisement on the cellular device for play back when the determined time interval occurs. <i>See</i> citations for claim 1PRE and claim elements 1B-C; <i>see also, e.g.:</i></p> <p style="padding-left: 40px;">A method for inserting advertisements into streaming audio for transmission over a world wide network of computers. The method includes transmitting audio data from a first server location to a client location. The audio data include a flag and audio content data. The method also includes monitoring the audio data and identifying the flag on the audio data. A step of inserting an advertisement, which is based upon a user profile, into the audio data based upon the flag is also included. The method also outputs the audio content data comprising the advertisement.</p> <p>Frerichs, Abstract.</p>

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<p>least one of the at least one determined advertisement on the cellular device for play back when the determined time interval occurs.</p>	<p>This invention generally relates to techniques for broadcasting information through a wide area network of computers. More particularly, the present invention provides a method and device for inserting a targeted advertisement based upon a user profile through streaming audio. Merely by way of example, the present invention is implemented using a personal computer, but it would be recognized that the invention has a much broader range of applicability. The invention can be applied to other computing devices, such as cellular phones, internet appliances, personal digital assistants, laptop computers, set top boxes, television, and the like.</p> <p>Frerichs at 1:8-20.</p> <p>According to the present invention, a technique including a method and device for streaming audio output is provided. More particularly, the invention provides a method and device for inserting targeted advertisement into streaming audio at a client location such as a personal computer. The invention also can be applied to other types of client devices such as personal digital assistants, internet appliances, internet radio, cellular phones, and the like.</p> <p>Frerichs at 2:13-20.</p>

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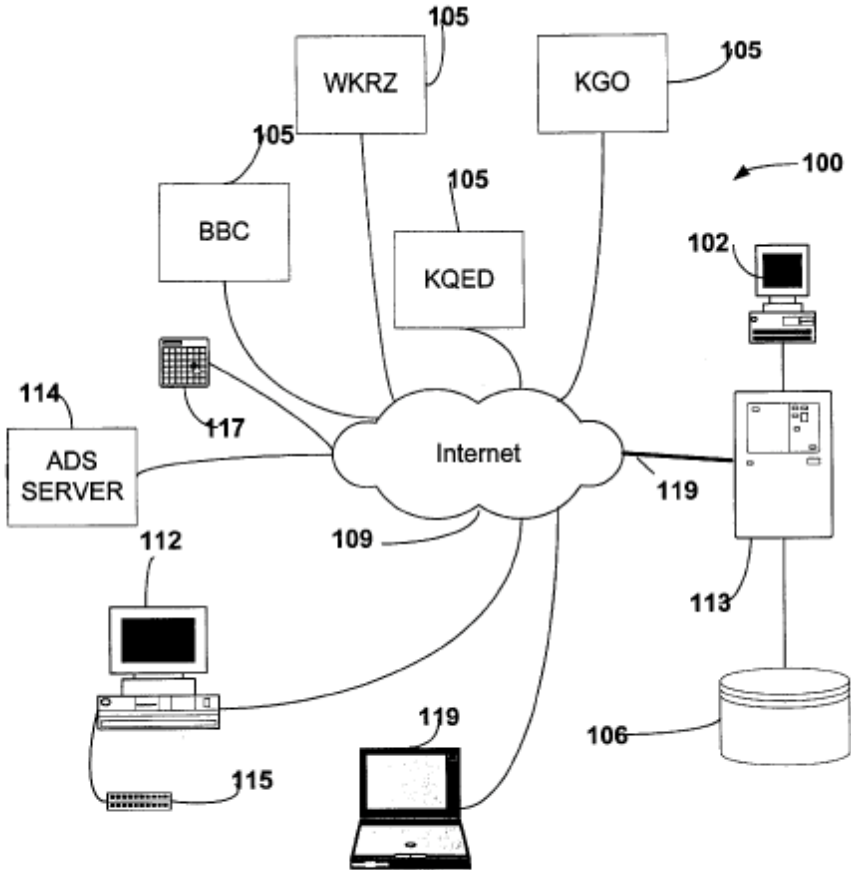
Claim	Exemplary Evidence of Anticipation and/or Obviousness
	 <p>The diagram, labeled FIG. 1, illustrates a network system. At the center is a cloud labeled "Internet" with reference numeral 109. Several entities are connected to this central cloud: four radio stations (WKRZ, KGO, BBC, and KQED) each labeled with 105; an "ADS SERVER" labeled 114; a calculator labeled 117; a desktop computer labeled 112; a laptop labeled 119; a server rack labeled 119; and a database cylinder labeled 106. A reference numeral 100 with an arrow points to the entire network assembly. A reference numeral 115 points to a keyboard connected to the desktop computer 112.</p> <p>FIG. 1</p> <p>Frerichs, Fig. 1.</p>

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	<p data-bbox="604 446 1940 922">FIG. 1 is a simplified diagram of a network computer system 100 according to an embodiment of the present invention. This diagram is merely an example, which should not limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. As shown, the system 100 includes a variety of elements such as a wide area network 109. The wide area network can be, for example, the Internet, an internet, or other type of network, which can include local area networks, intranets, and the like. Connected to the wide area network 109 is an audio tuning server 113, with terminal 102 and database 106. The wide area network allows for communication of other computers such as a client unit 112. Client can be configured with many different hardware components and can be made in many dimensions, styles and locations (e.g., laptop, palmtop, pen, server, workstation and mainframe). As shown, the system includes a lap top computer 119, which is coupled to the Internet, and a remote computing device 117, which is coupled to the Internet in a wireless manner. The remote computing device can include, for example, a cellular phone, a personal digital assistant, a pager, or the like.</p> <p data-bbox="508 938 758 971">Frerichs at 3:33-54.</p> <p data-bbox="699 1044 1940 1404">The method retrieves an advertisement 309 from storage. Here, the advertisement can be retrieved from location storage 313, which can be at the client location. Alternatively, the advertisement can be retrieved from an advertising server or other third party server 311. In some embodiments, the method may buffer 315 the advertisement and then provide it for insertion into the streaming audio. The method monitors the streaming audio for the flag 307. Once the flag has been found, the method inserts the advertisement between the first audio data and the second audio data. The streaming audio data is now ready for output at an audio output device, which is coupled to the client device. Depending upon the form of the streaming audio, the method can process streaming audio including the advertisement to make it suitable for output. Many conventional techniques can be used for converting the streaming audio into an analog signal for</p>

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	<p data-bbox="506 347 1297 423">output on a conventional speaker, for example. Frerichs at 7:41-58.</p> <p data-bbox="699 500 1835 570">A method according to an embodiment of the present invention can be briefly outlined as follows:</p> <ol data-bbox="699 591 1940 1419" style="list-style-type: none"><li data-bbox="699 591 1940 695">1. Connect client (e.g., personal computer, cellular phone, personal digital assistant, work station, television set top box, pager, internet radio, an internet appliance) to tuning server, which is coupled to a world wide area of computers;<li data-bbox="699 716 1906 786">2. Optionally, prompt and display indication on a first display portion of the client to user for a station;<li data-bbox="699 807 1499 837">3. Select indication directed to a certain station from the client;<li data-bbox="699 859 1864 928">4. Request connection for the certain station from the client to the tuning server through the network;<li data-bbox="699 950 1927 1019">5. Redirect connection from the tuning server to a URL for an audio stream of the certain station at the radio station server;<li data-bbox="699 1040 1923 1110">6. Transfer audio stream from the radio station server to the client to play audio stream on audio output device;<li data-bbox="699 1131 1864 1201">7. Provide first audio data for first song and second audio data for second song at the server location;<li data-bbox="699 1222 1927 1292">8. Provide flag comprising advertisement indication and delay at the server location (or use time or top of hour configuration to decide location of advertisement);<li data-bbox="699 1313 1877 1383">9. Add flag onto first audio data, which is now between the first song and second song at the server location (or other location);<li data-bbox="699 1404 1940 1419">10. Transfer flagged first audio data and second audio data from server location to client location

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	<p>as streaming audio;</p> <p>11. Retrieve advertisement from storage based upon a user profile;</p> <p>12. Insert advertisement into streaming audio at the flagged location (or at a specific time or top of hour);</p> <p>13. Process streaming audio including the advertisement;</p> <p>14. Output first song, advertisement, and second song through audio output device; and</p> <p>15. Perform other steps, as desirable.</p> <p>Frerichs at 10:17-56.</p> <p>FIG. 3 is a simplified diagram of a data insertion method 300 according to an embodiment of the present invention. This diagram is merely an example which should not unduly limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. At a server location, the method 300 provides first audio data for a first song 301 and second audio data for a second song 305. The first audio data is provided at time T_0, which is an initial or zero time, as given only for reference purposes. As shown, the method also provides a flag comprising advertisement indication and delay at the server location. The flag is data that indicates where an advertisement is to be inserted. The flag often has other information such as the length of the advertisement, current content type (e.g. music/talk), and current ad frequency on this stream (e.g. 2 per hour).</p> <p>Frerichs at 6:57-7:5.</p> <p>As noted, the advertisement can come from one of the plurality of content servers, each corresponding to a radio station with call letter, e.g., BBC, WKRZ, KQED, KGO. Each of these servers can be coupled directly to the network or through a client computer. Each of the servers can be similar or can also be different, depending upon the application. Each of the servers is</p>

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	<p>preferably coupled to a radio station, which has a large depository of music and/or audio information, which can be communicated to the Internet and finally to client destinations. Here, the audio information is converted into a digital streaming format for transmission through the wide area network of computers. The audio data, either from an analog feed from the radio station, or from digital audio files is provided through streaming media software. The streaming media software provides the audio data to clients which request a connection to the audio data. The streaming media software sends the encoded audio to the client as a sequence of data packets. The client receives the packets and can decode the packets to then play the audio content, as noted.</p> <p>Frerichs at 7:6-25.</p> <p>Next, the method adds the flag 303 onto first audio data, which is now between the first song and second song at the server location (or other location). Here, the flag can be provided at the radio station server location. Alternatively, the flag can be provided at a tuning server location or other locations. In most embodiments, the flag is provided onto the first audio data at first time T_1, where $T_1 > T_0$, which signifies a delay 315 between the initial time and the first time. The delay can be caused by a variety of factors such as latency in the network or the like. In some embodiments, the method transfer the flagged first audio data and second audio data from server location to client location as streaming audio. In some other embodiments, the first audio data and the second audio data are transferred to a server for insertion of advertisements.</p> <p>Frerichs at 7:26-40.</p> <p>The method retrieves an advertisement 309 from storage. Here, the advertisement can be retrieved from location storage 313, which can be at the client location. Alternatively, the advertisement can be retrieved from an advertising server or other third party server 311. In some embodiments, the method may buffer 315 the advertisement and then provide it for insertion into the streaming audio. The method monitors the streaming audio for the flag 307. Once the flag has</p>

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	<p>been found, the method inserts the advertisement between the first audio data and the second audio data. The streaming audio data is now ready for output at an audio output device, which is coupled to the client device. Depending upon the form of the streaming audio, the method can process streaming audio including the advertisement to make it suitable for output. Many conventional techniques can be used for converting the streaming audio into an analog signal for output on a conventional speaker, for example.</p> <p>Frerichs at 7:41-58.</p> <p>Next, the method outputs the first song through audio output device. The method output the advertisement through audio output device; and the method output the second song through audio output device. As shown, the first song is outputted at second time T_2, where $T_2 > T_0$, which signifies a delay 317 between the first time and the second time. The delay can be caused by a variety of factors such as latency in the network or the like. The delay also can be selectively caused by way of a buffer or cache and the like. As shown, the streaming audio, which is output, includes first song 301, advertisement 309, and second song 305, which is output in a continuous manner. Depending upon the embodiment, the method continues to perform additional steps, as desired, or even repeats previous steps.</p> <p>Frerichs at 7:59-8:5.</p> <p>These steps show an easy way to insert an advertisement into streaming audio according to the present invention. The steps can be carried out using conventional hardware and selected software. The invention can be [sic] provide the user of the client device streaming audio with advertisements inserted between songs, for example. The advertisement can be selected from one of a plurality of storage locations, such as local storage, third party storage, and many others, depending upon the embodiment. In preferred embodiments, the method provides for targeted advertisement to a user. Additionally, these steps are merely examples and should not limit the scope of the claims herein. One of ordinary skill in the art would recognize many other</p>

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	<p style="text-align: center;">variations, modifications, and alternatives.</p> <p>Frerichs at 10:57-11:3.</p> <p>FIG. 6 is a simplified diagram of a method 600 for selecting an advertisement for streaming audio according to an embodiment of the present invention. This diagram is merely an example, which should not unduly limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, alternatives, and modifications. Like reference numerals are used in this Figure. as the previous Figure. for easy cross referencing, but are not intended to be limiting. As shown, the method begins at start, step 601. The method downloads a plurality of advertisements, which have been stored in memory. Here, the advertisement can be retrieved from location storage 521, which can be at the client location. Alternatively, the advertisement can be retrieved from an advertising server or other third party server 525. Alternatively, the advertisement can be retrieved from the tuning server 523.</p> <p>Frerichs at 15:24-39.</p> <p>In some embodiments, the advertisements are selected based upon a user profile (step 607). The user profile can include information derived from a user registration process. The user registration process can derive information such as, for example, sex, age, hobbies, geographic region, race, religion, health, and sexual orientation. Other information can also be derived from the stations being selected as well as use of such stations during the time of day, for example. The user profile information can also include any other information which can be used to provide a more desirable advertisement or information to the user. The user profile is used to query memory and retrieve advertisements that match or should be desirable to the user.</p> <p>Frerichs at 15:40-52.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<div data-bbox="598 342 1375 927"><pre>graph TD 601([START]) --> 603[DOWNLOAD ADS] 603 --> 605[RANDOMIZE] 605 --> 609[BUFFER] 609 --> 515[RETRIEVE AD] 515 --> 511[INSERT AD] 511 --> NEXT[→NEXT STEPS] 603 --> 607[PROCESS VIA PROFILE] 607 --> 605 603 --> 521[(LOCAL)] 603 --> 523[(TUNE SERVER)] 603 --> 525[(OTHER SERVER)]</pre></div> <p data-bbox="940 1060 1066 1105">FIG. 6</p> <p data-bbox="506 1157 709 1190">Frerichs, Fig. 6.</p> <p data-bbox="598 1263 1864 1403">Once the desired advertisements have been downloaded, the method randomizes (step 605) the advertisements to select one of the advertisements for output. Here, the method can use a random number generator approach to select the advertisement. Alternatively, the method can select the advertisement based upon other information in the user profile, step 607. For example, the selected</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p>advertisement can be desirable for outputting at a selected time of day, e.g., morning, night, afternoon. The advertisement is then outputted to an audio stream process, step 509, which could hold the advertisement in a buffer. Next, the method retrieves the advertisement (step 515) from buffer, and inserts (step 511) the advertisement into the streaming audio.</p> <p>Frerichs at 15:53-65.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
5. The method of claim 1, further comprising employing the cellular device to receive the content as a stream of content.	<p>Frerichs discloses the method of claim 1, further comprising employing the cellular device to receive the content as a stream of content. <i>See</i> citations for claim 6; citations for claim 1PRE and claim element 1C; <i>see also, e.g.:</i></p> <p>A method for inserting advertisements into streaming audio for transmission over a world wide network of computers. The method includes transmitting audio data from a first server location to a client location. The audio data include a flag and audio content data. The method also includes monitoring the audio data and identifying the flag on the audio data. A step of inserting an advertisement, which is based upon a user profile, into the audio data based upon the flag is also included. The method also outputs the audio content data comprising the advertisement.</p> <p>Frerichs, Abstract.</p> <p>According to the present invention, a technique including a method and device for streaming audio output is provided. More particularly, the invention provides a method and device for inserting targeted advertisement into streaming audio at a client location such as a personal computer. The invention also</p>

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	<p>can be applied to other types of client devices such as personal digital assistants, internet appliances, internet radio, cellular phones, and the like.</p> <p>Frerichs at 2:13-20.</p> <p>According to the present invention, a technique including a method and device for streaming audio output is provided. More particularly, the invention provides a method and device for inserting targeted advertisement into streaming audio at a client location such as a personal computer. The invention also can be applied to other types of client devices such as personal digital assistants, internet appliances, internet radio, cellular phones, and the like.</p> <p>Frerichs at 3:25-32.</p> <p>In a specific embodiment, the network is also coupled to a plurality of content servers 105, each corresponding to a radio station with call letter, e.g., BBC, WKRZ, KQED, KGO. Each of these servers can be coupled directly to the network or through a client computer, such as client 112. Each of the servers can be similar or can also be different, depending upon the application. Each of the servers is preferably coupled to a radio station, which has a large depository of music and/or audio information, which can be communicated to the Internet and finally to client destinations. Here, the audio information is converted into a digital streaming format for transmission through the wide area network of computers. The audio data, either from an analog feed from the radio station, or from digital audio files is provided through streaming media software. The streaming media software provides the audio data to clients which request a connection to the audio data. The streaming media software sends the encoded audio to the client as a sequence of data packets. The client receives the packets and can decode the packets to then play the audio content. The present invention can utilize a variety of conventional streaming media software. As merely an example, such a tuner is described in U.S. Ser. No. 09/334,846, commonly assigned, and hereby incorporated by reference. Other types of server devices, however, can also be used.</p>

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	Frerichs at 4:19-43.

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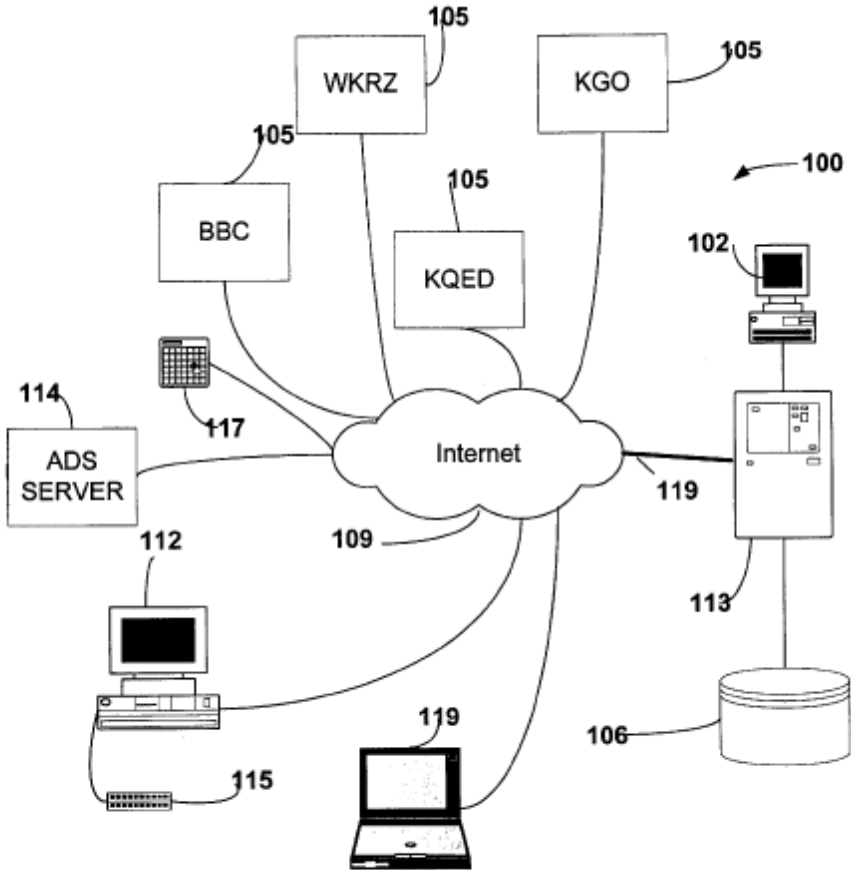
Claim	Exemplary Evidence of Anticipation and/or Obviousness
	 <p>The diagram, labeled FIG. 1, illustrates a network system. At the center is a cloud labeled "Internet" with reference numeral 109. Several entities are connected to this central cloud: three radio stations labeled WKRZ, KQED, and KGO, each with reference numeral 105; a BBC station with reference numeral 105; a calculator with reference numeral 117; an ADS SERVER with reference numeral 114; a desktop computer with reference numeral 112; a laptop with reference numeral 119; a server rack with reference numeral 119; and a database cylinder with reference numeral 106. A reference numeral 100 points to the entire system. A reference numeral 115 points to a keyboard connected to the desktop computer. A reference numeral 113 points to a connection line between the server rack and the database cylinder.</p> <p>FIG. 1</p> <p>Frerichs, Fig. 1.</p>

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	<p data-bbox="604 394 1940 683">In each of the servers 105, information such as advertisements can be inserted into the streaming audio for output at any one of the client devices. Information can also be inserted into the streaming audio at server 113. Additionally, information such as advertisements can be inserted into the streaming audio from an advertisement server 114, which can store advertisements for use with the streaming audio. The advertisements can be sent using a broadcast model, where the advertisements can be distributed to a group of users. Alternatively, they can be sent to a targeted group of users. Still further, a specific advertisement can be sent to a specific client, where the advertisement is carried by the streaming media. Further details of the processing hardware and software are shown below and illustrated by the Figures.</p> <p data-bbox="508 704 758 732">Frerichs at 4:44-57.</p> <p data-bbox="604 808 1940 951">These steps show an easy way to insert an advertisement into streaming audio according to the present invention. The steps can be carried out using conventional hardware and selected software. The invention can be [sic] provide the user of the client device streaming audio with advertisements inserted between songs, for example.</p> <p data-bbox="508 972 758 1000">Frerichs at 6:43-48.</p> <p data-bbox="604 1076 1940 1399">As noted, the advertisement can come from one of the plurality of content servers, each corresponding to a radio station with call letter, e.g., BBC, WKRZ, KQED, KGO. Each of these servers can be coupled directly to the network or through a client computer. Each of the servers can be similar or can also be different, depending upon the application. Each of the servers is preferably coupled to a radio station, which has a large depository of music and/or audio information, which can be communicated to the Internet and finally to client destinations. Here, the audio information is converted into a digital streaming format for transmission through the wide area network of computers. The audio data, either from an analog feed from the radio station, or from digital audio files is provided through streaming media software. The streaming media software provides the audio data to clients which request a</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p data-bbox="604 345 1898 448">connection to the audio data. The streaming media software sends the encoded audio to the client as a sequence of data packets. The client receives the packets and can decode the packets to then play the audio content, as noted.</p> <p data-bbox="508 469 741 500">Frerichs at 7:6-25.</p> <p data-bbox="604 574 1934 935">The method retrieves an advertisement 309 from storage. Here, the advertisement can be retrieved from location storage 313, which can be at the client location. Alternatively, the advertisement can be retrieved from an advertising server or other third party server 311. In some embodiments, the method may buffer 315 the advertisement and then provide it for insertion into the streaming audio. The method monitors the streaming audio for the flag 307. Once the flag has been found, the method inserts the advertisement between the first audio data and the second audio data. The streaming audio data is now ready for output at an audio output device, which is coupled to the client device. Depending upon the form of the streaming audio, the method can process streaming audio including the advertisement to make it suitable for output. Many conventional techniques can be used for converting the streaming audio into an analog signal for output on a conventional speaker, for example.</p> <p data-bbox="508 956 758 987">Frerichs at 7:41-58.</p> <p data-bbox="604 1062 1940 1390">Next, the method outputs the first song through audio output device. The method output the advertisement through audio output device; and the method output the second song through audio output device. As shown, the first song is outputted at second time T_2, where $T_2 > T_0$, which signifies a delay 317 between the first time and the second time. The delay can be caused by a variety of factors such as latency in the network or the like. The delay also can be selectively caused by way of a buffer or cache and the like. As shown, the streaming audio, which is output, includes first song 301, advertisement 309, and second song 305, which is output in a continuous manner. Depending upon the embodiment, the method continues to perform additional steps, as desired, or even repeats previous steps.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p data-bbox="506 345 768 375">Frerichs at 7:59-8:5.</p> <p data-bbox="600 448 1942 737">The custom software can insert the flag (step 351) at selected locations on the streaming audio. In one embodiment, the flag is inserted after the first song location, but before the location of the advertisement. The flag can be digital, an analog tone, or a watermark according to the embodiment. The flag can also be inserted or distributed through the location of the advertisement. The flag is often before the second song location. The streaming audio, including first audio data and second audio data, and flag is now ready for streaming over to a client or other server through the network. Once the scheduler software has the flags in the play list and the automation software is making the log file available on the network, the flags must be translated into data which can be sent in the encoded audio stream.</p> <p data-bbox="506 756 783 786">Frerichs at 8:64-9:11.</p> <p data-bbox="600 862 1934 1187">In a specific embodiment, the custom event software actively polls the log file and looks for ad insertion flags and song titles. When a flag is found, the software interfaces to the encoder software to insert the flag into the stream in a way that is compatible with the stream type. It would be recognized that the present method can accommodate different encoding formats and different automation packages, depending upon the embodiment. As merely an example, the present custom software supports Microsoft NetShow encoders and will run on the encoder PC at the station to insert a custom SendEvent script into the audio stream whenever the name changes in the log file. Here, the software and resulting method provides full song title information in audio format. Other embodiments can also support MP3 and Real Audio formats.</p> <p data-bbox="506 1206 758 1235">Frerichs at 9:12-26.</p> <p data-bbox="600 1312 1927 1414">Next, the method transfers the streaming audio with flag to the network, step 357. The network can be a local area network, an internet, an intranet, or the Internet. The streaming audio is transferred to the tuning server, which directs the audio to a client for output. In these embodiments, the tuning server can</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p>insert the advertisement. Alternatively, the client can also insert the advertisement. Still further the streaming audio with flag can be sent to the client, which inserts the advertisement. Alternatively, a third party server, including the tuning server, can insert the advertisement. These and other embodiments will be recognized by one of ordinary skill in the art.</p> <p>Frerichs at 9:27-38.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
6. The method of claim 1, further comprising receiving the content as a broadcast of content for playing on the cellular device.	<p>Frerichs discloses the method of claim 1, further comprising receiving the content as a broadcast of content for playing on the cellular device. <i>See</i> citations for claim 1PRE, claim element 1C, and claim 5; <i>see also, e.g.:</i></p> <p>A method for inserting advertisements into streaming audio for transmission over a world wide network of computers. The method includes transmitting audio data from a first server location to a client location. The audio data include a flag and audio content data. The method also includes monitoring the audio data and identifying the flag on the audio data. A step of inserting an advertisement, which is based upon a user profile, into the audio data based upon the flag is also included. The method also outputs the audio content data comprising the advertisement.</p> <p>Frerichs, Abstract.</p> <p>This invention generally relates to techniques for broadcasting information through a wide area network of computers. More particularly, the present invention provides a method and device for inserting a targeted advertisement based upon a user profile through streaming audio. Merely by way of example, the present invention is implemented using a personal computer, but it would be recognized that the</p>

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	<p>invention has a much broader range of applicability. The invention can be applied to other computing devices, such as cellular phones, internet appliances, personal digital assistants, laptop computers, set top boxes, television, and the like.</p> <p>Frerichs at 1:8-20.</p> <p>From the above, it is seen that an improved way to transmit and control radio station information is highly desirable.</p> <p>Frerichs at 2:8-10.</p> <p>According to the present invention, a technique including a method and device for streaming audio output is provided. More particularly, the invention provides a method and device for inserting targeted advertisement into streaming audio at a client location such as a personal computer. The invention also can be applied to other types of client devices such as personal digital assistants, internet appliances, internet radio, cellular phones, and the like.</p> <p>Frerichs at 2:13-20.</p> <p>According to the present invention, a technique including a method and device for streaming audio output is provided. More particularly, the invention provides a method and device for inserting targeted advertisement into streaming audio at a client location such as a personal computer. The invention also can be applied to other types of client devices such as personal digital assistants, internet appliances, internet radio, cellular phones, and the like.</p> <p>Frerichs at 3:25-32.</p> <p>In a specific embodiment, the network is also coupled to a plurality of content servers 105, each</p>

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	<p>corresponding to a radio station with call letter, e.g., BBC, WKRZ, KQED, KGO. Each of these servers can be coupled directly to the network or through a client computer, such as client 112. Each of the servers can be similar or can also be different, depending upon the application. Each of the servers is preferably coupled to a radio station, which has a large depository of music and/or audio information, which can be communicated to the Internet and finally to client destinations. Here, the audio information is converted into a digital streaming format for transmission through the wide area network of computers. The audio data, either from an analog feed from the radio station, or from digital audio files is provided through streaming media software. The streaming media software provides the audio data to clients which request a connection to the audio data. The streaming media software sends the encoded audio to the client as a sequence of data packets. The client receives the packets and can decode the packets to then play the audio content. The present invention can utilize a variety of conventional streaming media software. As merely an example, such a tuner is described in U.S. Ser. No. 09/334,846, commonly assigned, and hereby incorporated by reference. Other types of server devices, however, can also be used.</p> <p>Frerichs at 4:19-43.</p>

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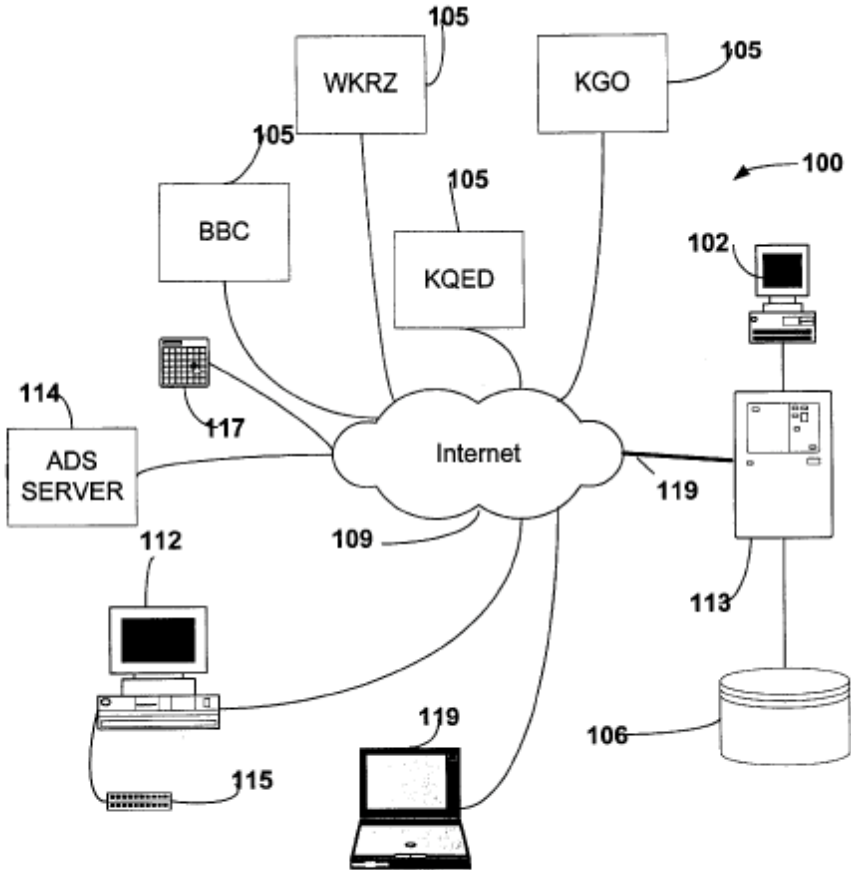
Claim	Exemplary Evidence of Anticipation and/or Obviousness
	 <p>The diagram, labeled FIG. 1, illustrates a network system. At the center is a cloud labeled "Internet" with reference numeral 109. Several entities are connected to this central cloud: <ul style="list-style-type: none">Five radio stations: WKRZ (105), KGO (105), BBC (105), KQED (105), and another station (105) at the top.An "ADS SERVER" (114) connected via a keyboard (117).A desktop computer (112) connected via a monitor and system unit.A laptop computer (119) connected via a screen and base.A server rack (119) connected via a vertical bus (113) to a storage unit (106).A mobile device (102) connected via a screen and base.Reference numeral 100 points to the overall system. Reference numeral 115 points to a peripheral device connected to the desktop computer (112).</p> <p>FIG. 1</p> <p>Frerichs, Fig. 1.</p>

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	<p>In each of the servers 105, information such as advertisements can be inserted into the streaming audio for output at any one of the client devices. Information can also be inserted into the streaming audio at server 113. Additionally, information such as advertisements can be inserted into the streaming audio from an advertisement server 114, which can store advertisements for use with the streaming audio. The advertisements can be sent using a broadcast model, where the advertisements can be distributed to a group of users. Alternatively, they can be sent to a targeted group of users. Still further, a specific advertisement can be sent to a specific client, where the advertisement is carried by the streaming media. Further details of the processing hardware and software are shown below and illustrated by the Figures.</p> <p>Frerichs at 4:44-57.</p> <p>These steps show an easy way to insert an advertisement into streaming audio according to the present invention. The steps can be carried out using conventional hardware and selected software. The invention can be [sic] provide the user of the client device streaming audio with advertisements inserted between songs, for example.</p> <p>Frerichs at 6:43-48.</p> <p>As noted, the advertisement can come from one of the plurality of content servers, each corresponding to a radio station with call letter, e.g., BBC, WKRZ, KQED, KGO. Each of these servers can be coupled directly to the network or through a client computer. Each of the servers can be similar or can also be different, depending upon the application. Each of the servers is preferably coupled to a radio station, which has a large depository of music and/or audio information, which can be communicated to the Internet and finally to client destinations. Here, the audio information is converted into a digital streaming format for transmission through the wide area network of computers. The audio data, either from an analog feed from the radio station, or from digital audio files is provided through streaming media software. The streaming media software provides the audio data to clients which request a</p>

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	<p data-bbox="604 345 1898 448">connection to the audio data. The streaming media software sends the encoded audio to the client as a sequence of data packets. The client receives the packets and can decode the packets to then play the audio content, as noted.</p> <p data-bbox="506 469 743 500">Frerichs at 7:6-25.</p> <p data-bbox="604 574 1940 1154">FIG. 5 is a simplified diagram of a data insertion method 500 according to an alternative embodiment of the present invention. This diagram is merely an example which should not unduly limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. The method begins at start, step 501. FIG. 5 is a simplified diagram of a data insertion method 500 according to yet an alternative embodiment of the present invention. This diagram is merely an example which should not unduly limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. Here, the user of the method begins at a client device, such as the one noted above, as well as others. The method generally uses such a client device with a browsing device, which is used to interface through a world wide network of computers to a server device, called the tuning server in the present embodiment. The client can be a personal computer, cellular phone, personal digital assistant, work station, television set top box, pager, internet radio, an internet appliance, or the like. The client connects (step 503) to the tuning server, which is also coupled to a world wide area of computers. The network is an internet or the Internet or the like. Once the connection is made, which is commonly a TCP type connection, the method goes onto the next step. Here, the client device often includes software such as the IM™ Tuner made by SonicBox, Inc. or the like, but can be others.</p> <p data-bbox="506 1175 774 1206">Frerichs at 12:40-67.</p> <p data-bbox="604 1281 1927 1421">Once the connection is made, streaming audio (step 505) is provided. Here, the streaming audio can be provided from one of a plurality of audio content sources. Each radio station server may include a call letter, e.g., BBC, WKRZ, KQED, KGO. Each of these servers can be coupled directly to the network or through a client computer. Each of the servers can be similar or can also be different, depending upon</p>

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	<p>the application. Each of the servers is preferably coupled to a radio station, which has a large depository of music and/or audio information, which can be communicated to the Internet and finally to client destinations. Here, the audio information is converted into a digital streaming format for transmission through the wide area network of computers. The audio data, either from an analog feed from the radio station, or from digital audio files is provided through streaming media software. The streaming media software provides the audio data to clients which request a connection to the audio data. The streaming media software sends the encoded audio to the client as a sequence of data packets. The client receives the packets and can decode the packets to then play the audio content.</p> <p>Frerichs at 13:1-21.</p> <p>At one or more of these radio station server locations, the method provides first audio data for a first song and second audio data for a second song. The first audio data is provided at time T_0, which is an initial or zero time, as given only for reference purposes. The method also provides a flag comprising advertisement indication and delay at the server location. The flag is data that indicates where an advertisement is to be inserted. The flag often has other information such as the length of the advertisement, current content type (e.g. music/talk), and current ad frequency on this stream (e.g. 2 per hour).</p> <p>Frerichs at 13:22-32.</p> <p>Next, the method adds the flag onto first audio data, which is now between the first song and second song at the server location (or other location). Here, the flag can be provided at the radio station server location. Alternatively, the flag can be provided at a tuning server location or other locations. In most embodiments, the flag is provided onto the first audio data at first time T_1, where $T_1 > T_0$, which signifies a delay between the initial time and the first time. The delay can be caused by a variety of factors such as latency in the network or the like. In some embodiments, the method transfer the flagged first audio data and second audio data from server location to client location as streaming audio. In some other embodiments, the first audio data and the second audio data are transferred to a server for insertion of</p>

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	<p>advertisements at a client location.</p> <p>Frerichs at 13:33-47.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
7. The method of claim 1, further comprising employing the cellular device to receive a stream for the at least one determined advertisement.	<p>Frerichs discloses the method of claim 1, further comprising employing the cellular device to receive a stream for the at least one determined advertisement. <i>See</i> citations for claim 1PRE, claim element 1B, and claim 5; <i>see also, e.g.:</i></p> <p>A method for inserting advertisements into streaming audio for transmission over a world wide network of computers. The method includes transmitting audio data from a first server location to a client location. The audio data include a flag and audio content data. The method also includes monitoring the audio data and identifying the flag on the audio data. A step of inserting an advertisement, which is based upon a user profile, into the audio data based upon the flag is also included. The method also outputs the audio content data comprising the advertisement.</p> <p>Frerichs, Abstract.</p> <p>This invention generally relates to techniques for broadcasting information through a wide area network of computers. More particularly, the present invention provides a method and device for inserting a targeted advertisement based upon a user profile through streaming audio. Merely by way of example, the present invention is implemented using a personal computer, but it would be recognized that the invention has a much broader range of applicability. The invention can be applied to other computing devices, such as cellular phones, internet appliances, personal digital assistants, laptop computers, set top</p>

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	<p>boxes, television, and the like.</p> <p>Frerichs at 1:8-20.</p> <p>According to the present invention, a technique including a method and device for streaming audio output is provided. More particularly, the invention provides a method and device for inserting targeted advertisement into streaming audio at a client location such as a personal computer. The invention also can be applied to other types of client devices such as personal digital assistants, internet appliances, internet radio, cellular phones, and the like.</p> <p>Frerichs at 2:13-20.</p> <p>According to the present invention, a technique including a method and device for streaming audio output is provided. More particularly, the invention provides a method and device for inserting targeted advertisement into streaming audio at a client location such as a personal computer. The invention also can be applied to other types of client devices such as personal digital assistants, internet appliances, internet radio, cellular phones, and the like.</p> <p>Frerichs at 3:25-32.</p> <p>In each of the servers 105, information such as advertisements can be inserted into the streaming audio for output at any one of the client devices. Information can also be inserted into the streaming audio at server 113. Additionally, information such as advertisements can be inserted into the streaming audio from an advertisement server 114, which can store advertisements for use with the streaming audio. The advertisements can be sent using a broadcast model, where the advertisements can be distributed to a group of users. Alternatively, they can be sent to a targeted group of users. Still further, a specific advertisement can be sent to a specific client, where the advertisement is carried by the streaming media. Further details of the processing hardware and software are shown below and illustrated by the Figures.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p data-bbox="506 345 758 375">Frerichs at 4:44-57.</p> <p data-bbox="600 448 1923 808">The method retrieves an advertisement 309 from storage. Here, the advertisement can be retrieved from location storage 313, which can be at the client location. Alternatively, the advertisement can be retrieved from an advertising server or other third party server 311. In some embodiments, the method may buffer 315 the advertisement and then provide it for insertion into the streaming audio. he method monitors the streaming audio for the flag 307. Once the flag has been found, the method inserts the advertisement between the first audio data and the second audio data. The streaming audio data is now ready for output at an audio output device, which is coupled to the client device. Depending upon the form of the streaming audio, the method can process streaming audio including the advertisement to make it suitable for output. Many conventional techniques can be used for converting the streaming audio into an analog signal for output on a conventional speaker, for example.</p> <p data-bbox="506 829 758 859">Frerichs at 7:41-58.</p> <p data-bbox="600 932 1940 1187">Next, the method transfers the streaming audio with flag to the network, step 357. The network can be a local area network, an internet, an intranet, or the Internet. The streaming audio is transferred to the tuning server, which directs the audio to a client for output. In these embodiments, the tuning server can insert the advertisement. Alternatively, the client can also insert the advertisement. Still further the streaming audio with flag can be sent to the client, which inserts the advertisement. Alternatively, a third party server, including the tuning server, can insert the advertisement. These and other embodiments will be recognized by one of ordinary skill in the art.</p> <p data-bbox="506 1208 758 1237">Frerichs at 9:27-38.</p> <p data-bbox="600 1310 1850 1346">A method according to an embodiment of the present invention can be briefly outlined as follows:</p> <ol data-bbox="600 1365 1843 1395" style="list-style-type: none"><li data-bbox="600 1365 1843 1395">1. Connect client (e.g., personal computer, cellular phone, personal digital assistant, work station,

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	<p>television set top box, pager, internet radio, an internet appliance) to tuning server, which is coupled to a world wide area of computers;</p> <ol style="list-style-type: none">2. Optionally, prompt and display indication on a first display portion of the client to user for a station;3. Select indication directed to a certain station from the client;4. Request connection for the certain station from the client to the tuning server through the network;5. Redirect connection from the tuning server to a URL for an audio stream of the certain station at the radio station server;6. Transfer audio stream from the radio station server to the client to play audio stream on audio output device;7. Provide first audio data for first song and second audio data for second song at the server location;8. Provide flag comprising advertisement indication and delay at the server location (or use time or top of hour configuration to decide location of advertisement);9. Add flag onto first audio data, which is now between the first song and second song at the server location (or other location);10. Transfer flagged first audio data and second audio data from server location to client location as streaming audio;11. Retrieve advertisement from storage based upon a user profile;12. Insert advertisement into streaming audio at the flagged location (or at a specific time or top of hour);13. Process streaming audio including the advertisement;14. Output first song, advertisement, and second song through audio output device; and15. Perform other steps, as desirable.

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	<p data-bbox="506 345 779 375">Frerichs at 10-17-56.</p> <p data-bbox="600 448 1942 773">Next, the method adds the flag onto first audio data, which is now between the first song and second song at the server location (or other location). Here, the flag can be provided at the radio station server location. Alternatively, the flag can be provided at a tuning server location or other locations. In most embodiments, the flag is provided onto the first audio data at first time T_1, where $T_1 > T_0$, which signifies a delay between the initial time and the first time. The delay can be caused by a variety of factors such as latency in the network or the like. In some embodiments, the method transfer the flagged first audio data and second audio data from server location to client location as streaming audio. In some other embodiments, the first audio data and the second audio data are transferred to a server for insertion of advertisements at a client location.</p> <p data-bbox="506 792 779 821">Frerichs at 13:33-47.</p> <p data-bbox="600 894 1942 1260">Next, the method retrieves an advertisement 515 from storage 527. Here, the advertisement can be retrieved from location storage 521, which can be at the client location. Alternatively, the advertisement can be retrieved from an advertising server or other third party server 525. Alternatively, the advertisement can be retrieved from the tuning server 523. The method monitors (step 507) the streaming audio for the flag. Once the flag has been found, the method inserts (step 511) the advertisement between the first audio data and the second audio data. The streaming audio data is now ready for output at an audio output device, which is coupled to the client device. Depending upon the form of the streaming audio, the method can process streaming audio including the advertisement to make it suitable for output. Many conventional techniques can be used for converting the streaming audio into an analog signal for output on a conventional speaker, for example.</p> <p data-bbox="506 1279 779 1308">Frerichs at 13:48-64.</p> <p data-bbox="600 1382 1942 1414">In a specific embodiment, the customized software also provides for targeted advertisements based upon</p>

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	<p>a user profile. Here, the software recognizes a unique identification number (ID) on the server and an associated demographic. The demographic is built from volunteered information and from monitoring of user listening patterns. When the streaming audio begins, the software checks for the most recent list of advertisement sequences available for that user. The list of sequences is generated by first matching the user demographic with the currently running advertisement sequences, for example. The software also checks to see how many times each advertisement has been heard by the user. The information is summarized in an available advertisement list that contains the relevant ad sequences, their associated audio tracks, and the number of times each track can still be heard by this listener before they expire.</p> <p>Frerichs at 9:39-54.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
[9PRE] A cellular device, comprising:	<p>To the extent the preamble limiting, Frerichs discloses a cellular device. <i>See</i> citations for claim 1PRE; claim elements 9A-G; <i>see also, e.g.:</i></p> <p>This invention generally relates to techniques for broadcasting information through a wide area network of computers. More particularly, the present invention provides a method and device for inserting a targeted advertisement based upon a user profile through streaming audio. Merely by way of example, the present invention is implemented using a personal computer, but it would be recognized that the invention has a much broader range of applicability. The invention can be applied to other computing devices, such as cellular phones, internet appliances, personal digital assistants, laptop computers, set top boxes, television, and the like.</p>

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	<p data-bbox="506 344 743 373">Frerichs at 1:8-20.</p> <p data-bbox="602 448 1923 626">According to the present invention, a technique including a method and device for streaming audio output is provided. More particularly, the invention provides a method and device for inserting targeted advertisement into streaming audio at a client location such as a personal computer. The invention also can be applied to other types of client devices such as personal digital assistants, internet appliances, internet radio, cellular phones, and the like.</p> <p data-bbox="506 646 758 675">Frerichs at 2:13-20.</p> <p data-bbox="602 750 1940 1224">FIG. 1 is a simplified diagram of a network computer system 100 according to an embodiment of the present invention. This diagram is merely an example, which should not limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. As shown, the system 100 includes a variety of elements such as a wide area network 109. The wide area network can be, for example, the Internet, an internet, or other type of network, which can include local area networks, intranets, and the like. Connected to the wide area network 109 is an audio tuning server 113, with terminal 102 and database 106. The wide area network allows for communication of other computers such as a client unit 112. Client can be configured with many different hardware components and can be made in many dimensions, styles and locations (e.g., laptop, palmtop, pen, server, workstation and mainframe). As shown, the system includes a lap top computer 119, which is coupled to the Internet, and a remote computing device 117, which is coupled to the Internet in a wireless manner. The remote computing device can include, for example, a cellular phone, a personal digital assistant, a pager, or the like.</p> <p data-bbox="506 1243 758 1273">Frerichs at 3:33-54.</p>

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	<div data-bbox="661 349 1522 1226"><p>The diagram illustrates a network system centered around a cloud labeled "Internet". Several entities are connected to this central cloud:</p><ul style="list-style-type: none">Five radio stations: WKRZ, KGO, BBC, KQED, and another station labeled 105, all connected via lines labeled 105.An "ADS SERVER" (114) connected via line 117.A desktop computer (112) connected via line 119.A laptop (115) connected via line 119.A server rack (113) connected via line 119, which is also linked to a database cylinder (106) via line 113.A mobile device (102) connected via line 119.A peripheral device (117) connected via line 117.<p>The entire system is collectively labeled 100 with an arrow pointing to the network cloud.</p></div> <p data-bbox="1060 1250 1207 1307">FIG. 1</p> <p data-bbox="504 1372 714 1412">Frerichs, Fig. 1.</p>

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	<p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
<p>[9A] (a) a memory for storing logical instructions;</p>	<p>Frerichs discloses a cellular device comprising a memory for storing logical instructions. <i>See</i> citations for claim 9PRE; <i>see also, e.g.:</i></p> <p style="padding-left: 40px;">This invention generally relates to techniques for broadcasting information through a wide area network of computers. More particularly, the present invention provides a method and device for inserting a targeted advertisement based upon a user profile through streaming audio. Merely by way of example, the present invention is implemented using a personal computer, but it would be recognized that the invention has a much broader range of applicability. The invention can be applied to other computing devices, such as cellular phones, internet appliances, personal digital assistants, laptop computers, set top boxes, television, and the like.</p> <p>Frerichs at 1:8-20.</p> <p style="padding-left: 40px;">According to the present invention, a technique including a method and device for streaming audio output is provided. More particularly, the invention provides a method and device for inserting targeted advertisement into streaming audio at a client location such as a personal computer. The invention also can be applied to other types of client devices such as personal digital assistants, internet appliances, internet radio, cellular phones, and the like.</p>

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	<p data-bbox="506 345 758 375">Frerichs at 2:13-20.</p> <p data-bbox="600 448 1940 922">FIG. 1 is a simplified diagram of a network computer system 100 according to an embodiment of the present invention. This diagram is merely an example, which should not limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. As shown, the system 100 includes a variety of elements such as a wide area network 109. The wide area network can be, for example, the Internet, an internet, or other type of network, which can include local area networks, intranets, and the like. Connected to the wide area network 109 is an audio tuning server 113, with terminal 102 and database 106. The wide area network allows for communication of other computers such as a client unit 112. Client can be configured with many different hardware components and can be made in many dimensions, styles and locations (e.g., laptop, palmtop, pen, server, workstation and mainframe). As shown, the system includes a lap top computer 119, which is coupled to the Internet, and a remote computing device 117, which is coupled to the Internet in a wireless manner. The remote computing device can include, for example, a cellular phone, a personal digital assistant, a pager, or the like.</p> <p data-bbox="506 943 758 972">Frerichs at 3:33-54.</p> <p data-bbox="600 1045 1940 1404">FIG. 2 is a simplified diagram of a computing device for processing streaming audio information according to an embodiment of the present invention. This diagram is merely an example which should not limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. Embodiments according to the present invention can be implemented in a single application program such as a browser, or can be implemented as multiple programs in a distributed computing environment, such as a workstation, personal computer or a remote terminal in a client server relationship. FIG. 2 shows computer system 210 including display device 220, display screen 230, cabinet 240, keyboard 250, scanner and mouse 270. Mouse 270 and keyboard 250 are representative “user input devices.” Mouse 270 includes buttons 280 for selection of buttons on a graphical user interface device. Other examples of user input devices are a touch screen,</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p>light pen, track ball, data glove, microphone, and so forth. The system also has audio output devices or speakers 232, which are each coupled to audio output ports in the computer system. The speakers are also coupled to a sound card, which converts digital audio information into an analog output. FIG. 2 is representative of but one type of system for embodying the present invention. It will be readily apparent to one of ordinary skill in the art that many system types and configurations are suitable for use in conjunction with the present invention. In a preferred embodiment, computer system 210 includes a Pentium™ class based computer, running Windows™ NT operating system by Microsoft Corporation. However, the apparatus is easily adapted to other operating systems and architectures by those of ordinary skill in the art without departing from the scope of the present invention.</p> <p>Frerichs at 4:58-5:23.</p> <p>Cabinet 240 houses familiar computer components such as disk drives, a processor, storage device, etc. Storage devices include, but are not limited to, disk drives, magnetic tape, solid state memory, bubble memory, etc. Cabinet 240 can include additional hardware such as input/output (“I/O”) interface cards for connecting computer system 210 to external devices external storage, other computers or additional peripherals, which are further described below.</p> <p>Frerichs at 5:25-33.</p> <p>FIG. 2A is an illustration of basic subsystems in computer system 210 of FIG. 2. This diagram is merely an illustration and should not limit the scope of the claims herein. One of ordinary skill in the art will recognize other variations, modifications, and alternatives. In certain embodiments, the subsystems are interconnected via a system bus 275. Additional subsystems such as a printer 274, keyboard 278, fixed disk 279, monitor 276, which is coupled to display adapter 282, and others are shown. Peripherals and input/output (“I/O”) devices, which couple to I/O controller 271, can be connected to the computer system by any number of means known in the art, such as serial port 277. For example, serial port 277 can be used to connect the computer system to a modem 281, which in turn connects to a wide area network such as the Internet, a mouse input device, or a scanner. The interconnection via system</p>

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	<p>bus allows central processor 273 to communicate with each subsystem and to control the execution of instructions from system memory 272 or the fixed disk 279, as well as the exchange of information between subsystems. Other arrangements of subsystems and interconnections are readily achievable by those of ordinary skill in the art. System memory, and the fixed disk are examples of tangible media for storage of computer programs, other types of tangible media include floppy disks, removable hard disks, optical storage media such as CD-ROMs and bar codes, and semiconductor memories such as flash memory, read-only-memories (“ROM”), and battery backed memory. The present invention can also include a tuner for selecting a channel from a plurality of channels. As merely an example, such a tuner is described in U.S. Ser. No. 6,389,463, commonly assigned, and hereby incorporated by reference. The tuner is coupled to audio output device 291, which provides audio signals to speakers. The speakers output audio in the form of, for example, music, etc. The audio output device can be in the form speakers. Other types of tuning devices, however, can also be used.</p> <p>Frerichs at 5:34-6:3.</p> <p>Although the above has been described in terms of specific hardware features, it would be recognized that there can be many alternatives, variations, and modifications. For example, any of the above elements can be separated or combined. Alternatively, some of the elements can be implemented in software or a combination of hardware and software. Alternatively, the above elements can be further integrated in hardware or software or hardware and software or the like. It is also understood that the examples and embodiments described herein are for illustrative purposes only and that various modifications or changes in light thereof will be suggested to persons skilled in the art and are to be included within the spirit and purview of this application and scope of the appended claims.</p> <p>Frerichs at 6:4-17.</p> <p>As shown, the method 400 begins at start, step 401. Here, the user of the method begins at a client device, such as the one noted above, as well as others. The method generally uses such a client device with a browsing device, which is used to interface through a world wide network of computers to a</p>

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	<p>server device, called the tuning server in the present embodiment. The client can be a personal computer, cellular phone, personal digital assistant, work station, television set top box, pager, internet radio, an internet appliance, or the like. The client connects (step 403) to the tuning server, which is also coupled to a world wide area of computers. The network is an internet or the Internet or the like. Once the connection is made, which is commonly a TCP type connection, the method prompts (step 405) and displays and indication on a first display portion of the client to user for a radio station to be selected. Here, the client device often includes software such as the IM™ Tuner made by SonicBox, Inc. or the like, but can be others.</p> <p>Frerichs at 11:4-21.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
[9B] (b) a wireless interface unit for sending and receiving data; and	<p>Frerichs discloses a cellular device comprising a wireless interface unit for sending and receiving data. <i>See</i> citations for claim 1PRE, 9PRE, and claim elements 1B-C; <i>see also, e.g.:</i></p> <p>This invention generally relates to techniques for broadcasting information through a wide area network of computers. More particularly, the present invention provides a method and device for inserting a targeted advertisement based upon a user profile through streaming audio. Merely by way of example, the present invention is implemented using a personal computer, but it would be recognized that the invention has a much broader range of applicability. The invention can be applied to other computing devices, such as cellular phones, internet appliances, personal digital assistants, laptop computers, set top boxes, television, and the like.</p>

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	<p data-bbox="506 345 743 375">Frerichs at 1:8-20.</p> <p data-bbox="602 451 1919 626">According to the present invention, a technique including a method and device for streaming audio output is provided. More particularly, the invention provides a method and device for inserting targeted advertisement into streaming audio at a client location such as a personal computer. The invention also can be applied to other types of client devices such as personal digital assistants, internet appliances, internet radio, cellular phones, and the like.</p> <p data-bbox="506 649 758 678">Frerichs at 2:13-20.</p> <p data-bbox="602 755 1940 1224">FIG. 1 is a simplified diagram of a network computer system 100 according to an embodiment of the present invention. This diagram is merely an example, which should not limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. As shown, the system 100 includes a variety of elements such as a wide area network 109. The wide area network can be, for example, the Internet, an internet, or other type of network, which can include local area networks, intranets, and the like. Connected to the wide area network 109 is an audio tuning server 113, with terminal 102 and database 106. The wide area network allows for communication of other computers such as a client unit 112. Client can be configured with many different hardware components and can be made in many dimensions, styles and locations (e.g., laptop, palmtop, pen, server, workstation and mainframe). As shown, the system includes a lap top computer 119, which is coupled to the Internet, and a remote computing device 117, which is coupled to the Internet in a wireless manner. The remote computing device can include, for example, a cellular phone, a personal digital assistant, a pager, or the like.</p> <p data-bbox="506 1247 758 1276">Frerichs at 3:33-54.</p> <p data-bbox="602 1352 1919 1414">FIG. 2 is a simplified diagram of a computing device for processing streaming audio information according to an embodiment of the present invention. This diagram is merely an example which should</p>

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	<p>not limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. Embodiments according to the present invention can be implemented in a single application program such as a browser, or can be implemented as multiple programs in a distributed computing environment, such as a workstation, personal computer or a remote terminal in a client server relationship. FIG. 2 shows computer system 210 including display device 220, display screen 230, cabinet 240, keyboard 250, scanner and mouse 270. Mouse 270 and keyboard 250 are representative “user input devices.” Mouse 270 includes buttons 280 for selection of buttons on a graphical user interface device. Other examples of user input devices are a touch screen, light pen, track ball, data glove, microphone, and so forth. The system also has audio output devices or speakers 232, which are each coupled to audio output ports in the computer system. The speakers are also coupled to a sound card, which converts digital audio information into an analog output. FIG. 2 is representative of but one type of system for embodying the present invention. It will be readily apparent to one of ordinary skill in the art that many system types and configurations are suitable for use in conjunction with the present invention. In a preferred embodiment, computer system 210 includes a Pentium™ class based computer, running Windows™ NT operating system by Microsoft Corporation. However, the apparatus is easily adapted to other operating systems and architectures by those of ordinary skill in the art without departing from the scope of the present invention.</p> <p>Frerichs at 4:58-5:23.</p> <p>Cabinet 240 houses familiar computer components such as disk drives, a processor, storage device, etc. Storage devices include, but are not limited to, disk drives, magnetic tape, solid state memory, bubble memory, etc. Cabinet 240 can include additional hardware such as input/output (“I/O”) interface cards for connecting computer system 210 to external devices external storage, other computers or additional peripherals, which are further described below.</p> <p>Frerichs at 5:25-33.</p> <p>FIG. 2A is an illustration of basic subsystems in computer system 210 of FIG. 2. This diagram is merely</p>

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	<p>an illustration and should not limit the scope of the claims herein. One of ordinary skill in the art will recognize other variations, modifications, and alternatives. In certain embodiments, the subsystems are interconnected via a system bus 275. Additional subsystems such as a printer 274, keyboard 278, fixed disk 279, monitor 276, which is coupled to display adapter 282, and others are shown. Peripherals and input/output (“I/O”) devices, which couple to I/O controller 271, can be connected to the computer system by any number of means known in the art, such as serial port 277. For example, serial port 277 can be used to connect the computer system to a modem 281, which in turn connects to a wide area network such as the Internet, a mouse input device, or a scanner. The interconnection via system bus allows central processor 273 to communicate with each subsystem and to control the execution of instructions from system memory 272 or the fixed disk 279, as well as the exchange of information between subsystems. Other arrangements of subsystems and interconnections are readily achievable by those of ordinary skill in the art. System memory, and the fixed disk are examples of tangible media for storage of computer programs, other types of tangible media include floppy disks, removable hard disks, optical storage media such as CD-ROMs and bar codes, and semiconductor memories such as flash memory, read-only-memories (“ROM”), and battery backed memory. The present invention can also include a tuner for selecting a channel from a plurality of channels. As merely an example, such a tuner is described in U.S. Ser. No. 6,389,463, commonly assigned, and hereby incorporated by reference. The tuner is coupled to audio output device 291, which provides audio signals to speakers. The speakers output audio in the form of, for example, music, etc. The audio output device can be in the form speakers. Other types of tuning devices, however, can also be used.</p> <p>Frerichs at 5:34-6:3.</p> <p>Although the above has been described in terms of specific hardware features, it would be recognized that there can be many alternatives, variations, and modifications. For example, any of the above elements can be separated or combined. Alternatively, some of the elements can be implemented in software or a combination of hardware and software. Alternatively, the above elements can be further integrated in hardware or software or hardware and software or the like. It is also understood that the examples and embodiments described herein are for illustrative purposes only and that various</p>

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	<p>modifications or changes in light thereof will be suggested to persons skilled in the art and are to be included within the spirit and purview of this application and scope of the appended claims.</p> <p>Frerichs at 6:4-17.</p> <p>A method according to an embodiment of the present invention can be briefly outlined as follows:</p> <ol style="list-style-type: none">1. Connect client (e.g., personal computer, cellular phone, personal digital assistant, work station, television set top box, pager, internet radio, an internet appliance) to tuning server, which is coupled to a world wide area of computers;2. Optionally, prompt and display indication on a first display portion of the client to user for a station;3. Select indication directed to a certain station from the client;4. Request connection for the certain station from the client to the tuning server through the network;5. Redirect connection from the tuning server to a URL for an audio stream of the certain station at the radio station server;6. Transfer audio stream from the radio station server to the client to play audio stream on audio output device;7. Provide first audio data for first song and second audio data for second song at the server location;8. Provide flag comprising advertisement indication and delay at the server location (or use time or top of hour configuration to decide location of advertisement);9. Add flag onto first audio data, which is now between the first song and second song at the server location (or other location);10. Transfer flagged first audio data and second audio data from server location to client location as streaming audio;11. Retrieve advertisement from storage based upon a user profile;

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	<p>12. Insert advertisement into streaming audio at the flagged location (or at a specific time or top of hour);</p> <p>13. Process streaming audio including the advertisement;</p> <p>14. Output first song, advertisement, and second song through audio output device; and</p> <p>15. Perform other steps, as desirable.</p> <p>Frerichs at 10-17-56.</p> <p>As shown, the method 400 begins at start, step 401. Here, the user of the method begins at a client device, such as the one noted above, as well as others. The method generally uses such a client device with a browsing device, which is used to interface through a world wide network of computers to a server device, called the tuning server in the present embodiment. The client can be a personal computer, cellular phone, personal digital assistant, work station, television set top box, pager, internet radio, an internet appliance, or the like. The client connects (step 403) to the tuning server, which is also coupled to a world wide area of computers. The network is an internet or the Internet or the like. Once the connection is made, which is commonly a TCP type connection, the method prompts (step 405) and displays and indication on a first display portion of the client to user for a radio station to be selected. Here, the client device often includes software such as the IM™ Tuner made by SonicBox, Inc. or the like, but can be others.</p> <p>Frerichs at 11:4-21.</p> <p>The client device prompts a menu to select an indication directed to a certain station. As merely an example, the menu can be one that is similar to the previously noted, but can be others. The user selects (step 407) the station by clicking on an indication directed to the station. The client device receives the selection and requests (step 411) for a connection for the selected station from the client to the tuning server through the network. The request often traverses through the network using packetized</p>

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	<p>communication to the tuning server, which receives the request. The tuning server can be similar to the one noted above, but can be others.</p> <p>Frerichs at 11:22-32.</p> <p>The tuning server is a often a suitable computer connected to a local or worldwide network of computers. It maintains databases some of which contain various relevant information relating to internet radio stations and internet radio listeners. The tuning server may also compile statistics and/or add data to databases relating to user activity and requests. The tuning server also responds to requests made by the client for information. There are many possible implementations of the tuning server and client such that the server can provide information to the client on request.</p> <p>Frerichs at 11:33-42</p> <p>The tuning server receives the request from the client. The tuning server matches the request to a URL, which defines the station. In a specific embodiment, the tuning server uses a look up table, such as the one noted to find the station. The tuning server finds the URL receives the client's request and redirects (step 415) the client to the URL for an audio stream of the selected station at the radio station server. The radio station server is connected (step 417) to the tuning server. The radio station server receives the request and transfers (step 419) the audio stream from the radio station server to the client.</p> <p>Frerichs at 11:43-53.</p> <p>he method continues to monitor the client for a change, step 423. Here, the client can change channels, stop the streaming audio transmission, and perform other functions, as well. If no change on the station is present, the method continues to maintain, step 421, and streaming audio continues to output on the client device. Alternatively, if a change is detected the method goes back to step 407, where the user selects another channel corresponding to a different radio station. Alternatively, if a change is not</p>

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	<p data-bbox="600 345 1885 410">detected and if the user decides to stop transmission of the streaming audio, the method stops, which releases the connection between the client and the radio station server.</p> <p data-bbox="506 435 772 459">Frerichs at 11:54-65.</p> <p data-bbox="600 540 1940 1117">FIG. 5 is a simplified diagram of a data insertion method 500 according to an alternative embodiment of the present invention. This diagram is merely an example which should not unduly limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. The method begins at start, step 501. FIG. 5 is a simplified diagram of a data insertion method 500 according to yet an alternative embodiment of the present invention. This diagram is merely an example which should not unduly limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. Here, the user of the method begins at a client device, such as the one noted above, as well as others. The method generally uses such a client device with a browsing device, which is used to interface through a world wide network of computers to a server device, called the tuning server in the present embodiment. The client can be a personal computer, cellular phone, personal digital assistant, work station, television set top box, pager, internet radio, an internet appliance, or the like. The client connects (step 503) to the tuning server, which is also coupled to a world wide area of computers. The network is an internet or the Internet or the like. Once the connection is made, which is commonly a TCP type connection, the method goes onto the next step. Here, the client device often includes software such as the IM™ Tuner made by SonicBox, Inc. or the like, but can be others.</p> <p data-bbox="506 1141 772 1166">Frerichs at 12:40-67.</p> <p data-bbox="600 1247 1927 1417">Once the connection is made, streaming audio (step 505) is provided. Here, the streaming audio can be provided from one of a plurality of audio content sources. Each radio station server may include a call letter, e.g., BBC, WKRZ, KQED, KGO. Each of these servers can be coupled directly to the network or through a client computer. Each of the servers can be similar or can also be different, depending upon the application. Each of the servers is preferably coupled to a radio station, which has a large depository</p>

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	<p data-bbox="604 345 1915 597">of music and/or audio information, which can be communicated to the Internet and finally to client destinations. Here, the audio information is converted into a digital streaming format for transmission through the wide area network of computers. The audio data, either from an analog feed from the radio station, or from digital audio files is provided through streaming media software. The streaming media software provides the audio data to clients which request a connection to the audio data. The streaming media software sends the encoded audio to the client as a sequence of data packets. The client receives the packets and can decode the packets to then play the audio content.</p> <p data-bbox="508 618 758 646">Frerichs at 13:1-21.</p> <p data-bbox="604 724 1925 971">At one or more of these radio station server locations, the method provides first audio data for a first song and second audio data for a second song. The first audio data is provided at time T_0, which is an initial or zero time, as given only for reference purposes. The method also provides a flag comprising advertisement indication and delay at the server location. The flag is data that indicates where an advertisement is to be inserted. The flag often has other information such as the length of the advertisement, current content type (e.g. music/talk), and current ad frequency on this stream (e.g. 2 per hour).</p> <p data-bbox="508 992 772 1019">Frerichs at 13:22-32.</p> <p data-bbox="604 1097 1940 1385">Next, the method adds the flag onto first audio data, which is now between the first song and second song at the server location (or other location). Here, the flag can be provided at the radio station server location. Alternatively, the flag can be provided at a tuning server location or other locations. In most embodiments, the flag is provided onto the first audio data at first time T_1, where $T_1 > T_0$, which signifies a delay between the initial time and the first time. The delay can be caused by a variety of factors such as latency in the network or the like. In some embodiments, the method transfer the flagged first audio data and second audio data from server location to client location as streaming audio. In some other embodiments, the first audio data and the second audio data are transferred to a server for insertion of</p>

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	<p>advertisements at a client location.</p> <p>Frerichs at 13:33-47.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
<p>[9C] (c) a processor for executing the logical instructions stored in the memory, the execution of the logical instructions causing actions to be performed, including:</p>	<p>Frerichs discloses a cellular device comprising a processor for executing the logical instructions stored in the memory, the execution of the logical instructions causing actions to be performed, including: <i>See</i> citations for claim element 9A-B and claim elements 9D-F; <i>see also, e.g.:</i></p> <p>According to the present invention, a technique including a method and device for streaming audio output is provided. More particularly, the invention provides a method and device for inserting targeted advertisement into streaming audio at a client location such as a personal computer. The invention also can be applied to other types of client devices such as personal digital assistants, internet appliances, internet radio, cellular phones, and the like.</p> <p>Frerichs at 2:13-20.</p> <p>FIG. 1 is a simplified diagram of a network computer system 100 according to an embodiment of the present invention. This diagram is merely an example, which should not limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. As shown, the system 100 includes a variety of elements such as a wide area network 109. The wide area network can be, for example, the Internet, an internet, or other type of network, which can include local area networks, intranets, and the like. Connected to the wide area network 109 is an audio tuning server 113, with terminal 102 and database 106. The wide area network allows for</p>

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	<p>communication of other computers such as a client unit 112. Client can be configured with many different hardware components and can be made in many dimensions, styles and locations (e.g., laptop, palmtop, pen, server, workstation and mainframe). As shown, the system includes a lap top computer 119, which is coupled to the Internet, and a remote computing device 117, which is coupled to the Internet in a wireless manner. The remote computing device can include, for example, a cellular phone, a personal digital assistant, a pager, or the like.</p> <p>Frerichs at 3:33-54.</p> <p>FIG. 2 is a simplified diagram of a computing device for processing streaming audio information according to an embodiment of the present invention. This diagram is merely an example which should not limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. Embodiments according to the present invention can be implemented in a single application program such as a browser, or can be implemented as multiple programs in a distributed computing environment, such as a workstation, personal computer or a remote terminal in a client server relationship. FIG. 2 shows computer system 210 including display device 220, display screen 230, cabinet 240, keyboard 250, scanner and mouse 270. Mouse 270 and keyboard 250 are representative “user input devices.” Mouse 270 includes buttons 280 for selection of buttons on a graphical user interface device. Other examples of user input devices are a touch screen, light pen, track ball, data glove, microphone, and so forth. The system also has audio output devices or speakers 232, which are each coupled to audio output ports in the computer system. The speakers are also coupled to a sound card, which converts digital audio information into an analog output. FIG. 2 is representative of but one type of system for embodying the present invention. It will be readily apparent to one of ordinary skill in the art that many system types and configurations are suitable for use in conjunction with the present invention. In a preferred embodiment, computer system 210 includes a Pentium™ class based computer, running Windows™ NT operating system by Microsoft Corporation. However, the apparatus is easily adapted to other operating systems and architectures by those of ordinary skill in the art without departing from the scope of the present invention.</p>

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	<p data-bbox="506 345 785 375">Frerichs at 4:58-5:23.</p> <p data-bbox="600 448 1919 626">Cabinet 240 houses familiar computer components such as disk drives, a processor, storage device, etc. Storage devices include, but are not limited to, disk drives, magnetic tape, solid state memory, bubble memory, etc. Cabinet 240 can include additional hardware such as input/output (“I/O”) interface cards for connecting computer system 210 to external devices external storage, other computers or additional peripherals, which are further described below.</p> <p data-bbox="506 646 758 675">Frerichs at 5:25-33.</p> <p data-bbox="600 751 1934 1406">FIG. 2A is an illustration of basic subsystems in computer system 210 of FIG. 2. This diagram is merely an illustration and should not limit the scope of the claims herein. One of ordinary skill in the art will recognize other variations, modifications, and alternatives. In certain embodiments, the subsystems are interconnected via a system bus 275. Additional subsystems such as a printer 274, keyboard 278, fixed disk 279, monitor 276, which is coupled to display adapter 282, and others are shown. Peripherals and input/output (“I/O”) devices, which couple to I/O controller 271, can be connected to the computer system by any number of means known in the art, such as serial port 277. For example, serial port 277 can be used to connect the computer system to a modem 281, which in turn connects to a wide area network such as the Internet, a mouse input device, or a scanner. The interconnection via system bus allows central processor 273 to communicate with each subsystem and to control the execution of instructions from system memory 272 or the fixed disk 279, as well as the exchange of information between subsystems. Other arrangements of subsystems and interconnections are readily achievable by those of ordinary skill in the art. System memory, and the fixed disk are examples of tangible media for storage of computer programs, other types of tangible media include floppy disks, removable hard disks, optical storage media such as CD-ROMs and bar codes, and semiconductor memories such as flash memory, read-only-memories (“ROM”), and battery backed memory. The present invention can also include a tuner for selecting a channel from a plurality of channels. As merely an example, such a tuner is described in U.S. Ser. No. 6,389,463, commonly assigned, and hereby incorporated by reference. The</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p>tuner is coupled to audio output device 291, which provides audio signals to speakers. The speakers output audio in the form of, for example, music, etc. The audio output device can be in the form speakers. Other types of tuning devices, however, can also be used.</p> <p>Frerichs at 5:34-6:3.</p> <p>Although the above has been described in terms of specific hardware features, it would be recognized that there can be many alternatives, variations, and modifications. For example, any of the above elements can be separated or combined. Alternatively, some of the elements can be implemented in software or a combination of hardware and software. Alternatively, the above elements can be further integrated in hardware or software or hardware and software or the like. It is also understood that the examples and embodiments described herein are for illustrative purposes only and that various modifications or changes in light thereof will be suggested to persons skilled in the art and are to be included within the spirit and purview of this application and scope of the appended claims.</p> <p>Frerichs at 6:4-17.</p> <p>As shown, the method 400 begins at start, step 401. Here, the user of the method begins at a client device, such as the one noted above, as well as others. The method generally uses such a client device with a browsing device, which is used to interface through a world wide network of computers to a server device, called the tuning server in the present embodiment. The client can be a personal computer, cellular phone, personal digital assistant, work station, television set top box, pager, internet radio, an internet appliance, or the like. The client connects (step 403) to the tuning server, which is also coupled to a world wide area of computers. The network is an internet or the Internet or the like. Once the connection is made, which is commonly a TCP type connection, the method prompts (step 405) and displays and indication on a first display portion of the client to user for a radio station to be selected. Here, the client device often includes software such as the IM™ Tuner made by SonicBox, Inc. or the like, but can be others.</p>

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	<p>Frerichs at 11:4-21.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
<p>[9D] (i) autonomously providing to a server information associated with a user of the cellular device, the information taken by the cellular device from a message sent to the cellular device from another user of another cellular device, the message identifying characteristics of the user of the cellular device;</p>	<p>Frerichs discloses autonomously providing to a server information associated with a user of the cellular device, the information taken by the cellular device from a message sent to the cellular device from another user of another cellular device, the message identifying characteristics of the user of the cellular device. <i>See</i> citations and obviousness discussion for claim element 1A; <i>see also</i> citations for claim elements 9A and 9C.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
<p>[9E] (ii) receiving from the server at least one</p>	<p>Frerichs discloses receiving from the server at least one advertisement, wherein the at least one received advertisement is determined by the server based at least in part on the provided information. <i>See</i> citations and</p>

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advertisement, wherein the at least one received advertisement is determined by the server based at least in part on the provided information;	<p>obviousness discussion for claim elements 1A-B; <i>see also</i> citations for claim elements 9A and 9C.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
[9F] (iii) if a determined time interval occurs, stopping playing of content, and playing the at least one determined advertisement, the playing of the at least one determined advertisement comprising:	<p>Frerichs discloses if a determined time interval occurs, stopping playing of content, and playing the at least one determined advertisement, the playing of the at least one determined advertisement. <i>See</i> citations for claim elements 1C, 9A, and 9C.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
[9G] recording the content which playing was stopped while the at least one determined advertisement is playing; and	<p>Frerichs discloses recording the content which playing was stopped while the at least one determined advertisement is playing; and</p> <p>when the playing of the at least one determined advertisement is completed, resuming the playing of the stopped content from where the stopping of the playing of the content occurred, using the recorded content. <i>See</i> citations and obviousness discussion for claim element 1D; <i>see also, e.g.</i>, citations for claim 1PRE and claim element 1C.</p>

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<p>when the playing of the at least one determined advertisement is completed, resuming the playing of the stopped content from where the stopping of the playing of the content occurred, using the recorded content.</p>	<p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
<p>10. The cellular device of claim 9, wherein the provided information additionally includes at least one from the group consisting of a user preference of the cellular device, a user demographic of the cellular device, a user behavior of the cellular device, content played on the cellular device, or a geographic location of the cellular device.</p>	<p>Frerichs discloses the cellular device of claim 9, wherein the provided information additionally includes at least one from the group consisting of a user preference of the cellular device, a user demographic of the cellular device, a user behavior of the cellular device, content played on the cellular device, or a geographic location of the cellular device. <i>See</i> citations and obviousness discussion for claim element 1A; <i>see also</i> citations for claims 2 and 9.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>

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cellular device, or a geographic location of the cellular device.	
11. The cellular device of claim 9, wherein the playing of at least one determined advertisement further comprises: (a) receiving from the server the at least one determined advertisement prior to the playing of the at least one determined advertisement; and (b) recording the at least one determined advertisement on the cellular device for play back if the determined interval occurs.	<p>Frerichs discloses the cellular device of claim 9, wherein the playing of at least one determined advertisement further comprises:</p> <p>(a) receiving from the server the at least one determined advertisement prior to the playing of the at least one determined advertisement; and</p> <p>(b) recording the at least one determined advertisement on the cellular device for play back if the determined interval occurs. <i>See</i> citations for claim 4 and claim elements 1B-D; <i>see also</i> citations for claim 9.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>

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<p>[12PRE] 12. An article of manufacture comprising:</p>	<p>To the extent the preamble limiting, Frerichs discloses an article of manufacture. <i>See</i> citations for claim 1PRE, claim 9PRE, and claim elements 12A-F; <i>see also, e.g.:</i></p> <p style="padding-left: 40px;">This invention generally relates to techniques for broadcasting information through a wide area network of computers. More particularly, the present invention provides a method and device for inserting a targeted advertisement based upon a user profile through streaming audio. Merely by way of example, the present invention is implemented using a personal computer, but it would be recognized that the invention has a much broader range of applicability. The invention can be applied to other computing devices, such as cellular phones, internet appliances, personal digital assistants, laptop computers, set top boxes, television, and the like.</p> <p>Frerichs at 1:8-20.</p> <p style="padding-left: 40px;">According to the present invention, a technique including a method and device for streaming audio output is provided. More particularly, the invention provides a method and device for inserting targeted advertisement into streaming audio at a client location such as a personal computer. The invention also can be applied to other types of client devices such as personal digital assistants, internet appliances, internet radio, cellular phones, and the like.</p> <p>Frerichs at 2:13-20.</p> <p style="padding-left: 40px;">FIG. 1 is a simplified diagram of a network computer system 100 according to an embodiment of the present invention. This diagram is merely an example, which should not limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. As shown, the system 100 includes a variety of elements such as a wide area network 109. The wide area network can be, for example, the Internet, an internet, or other type of network, which can include local area networks, intranets, and the like. Connected to the wide area network 109 is an audio</p>

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	<p>tuning server 113, with terminal 102 and database 106. The wide area network allows for communication of other computers such as a client unit 112. Client can be configured with many different hardware components and can be made in many dimensions, styles and locations (e.g., laptop, palmtop, pen, server, workstation and mainframe). As shown, the system includes a lap top computer 119, which is coupled to the Internet, and a remote computing device 117, which is coupled to the Internet in a wireless manner. The remote computing device can include, for example, a cellular phone, a personal digital assistant, a pager, or the like.</p> <p>Frerichs at 3:33-54.</p>

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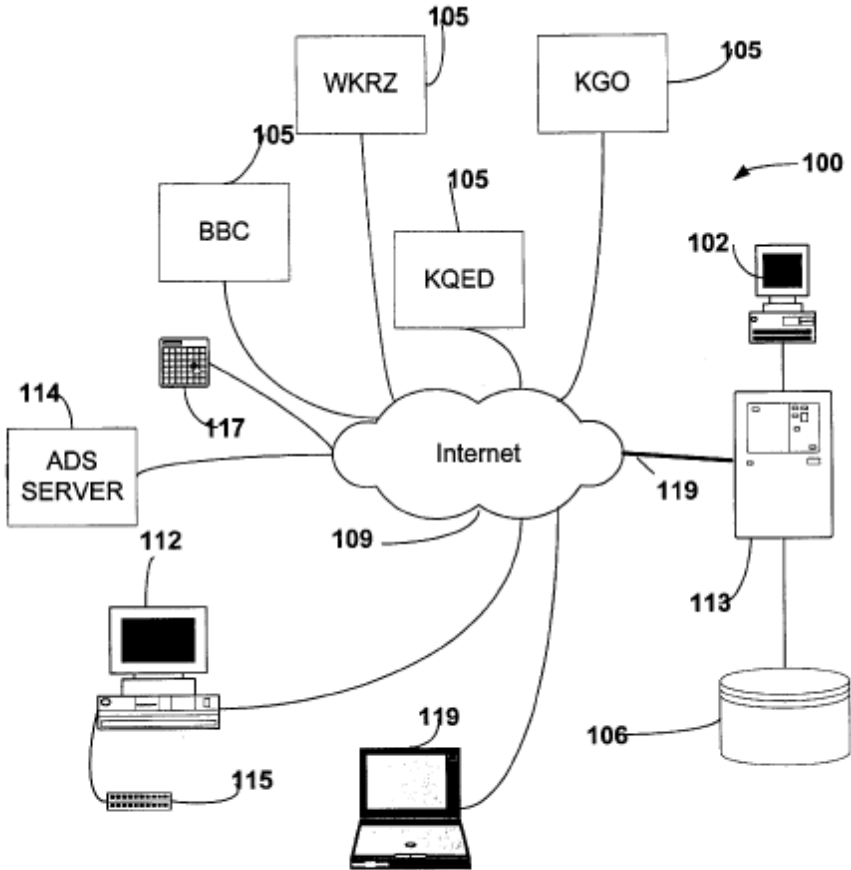
Claim	Exemplary Evidence of Anticipation and/or Obviousness
	 <p>The diagram, labeled FIG. 1, illustrates a network system. At the center is a cloud labeled "Internet" with reference numeral 109. Several entities are connected to this central cloud: <ul style="list-style-type: none">Five radio stations: WKRZ (105), KGO (105), BBC (105), KQED (105), and another station (105) at the top.An "ADS SERVER" (114) connected via a keyboard (117).A desktop computer (112) connected via a monitor and system unit.A laptop computer (119) connected via a screen and base.A server rack (119) connected via a tower unit.A database (106) connected via a cylinder icon.A mobile device (102) connected via a screen and base.Reference numeral 100 points to the overall system, and 113 points to the server rack. The caption "FIG. 1" is centered below the diagram.</p> <p>Frerichs, Fig. 1.</p>

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	<p>FIG. 2 is a simplified diagram of a computing device for processing streaming audio information according to an embodiment of the present invention. This diagram is merely an example which should not limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. Embodiments according to the present invention can be implemented in a single application program such as a browser, or can be implemented as multiple programs in a distributed computing environment, such as a workstation, personal computer or a remote terminal in a client server relationship. FIG. 2 shows computer system 210 including display device 220, display screen 230, cabinet 240, keyboard 250, scanner and mouse 270. Mouse 270 and keyboard 250 are representative “user input devices.” Mouse 270 includes buttons 280 for selection of buttons on a graphical user interface device. Other examples of user input devices are a touch screen, light pen, track ball, data glove, microphone, and so forth. The system also has audio output devices or speakers 232, which are each coupled to audio output ports in the computer system. The speakers are also coupled to a sound card, which converts digital audio information into an analog output. FIG. 2 is representative of but one type of system for embodying the present invention. It will be readily apparent to one of ordinary skill in the art that many system types and configurations are suitable for use in conjunction with the present invention. In a preferred embodiment, computer system 210 includes a Pentium™ class based computer, running Windows™ NT operating system by Microsoft Corporation. However, the apparatus is easily adapted to other operating systems and architectures by those of ordinary skill in the art without departing from the scope of the present invention.</p> <p>Frerichs at 4:58-5:23.</p> <p>Cabinet 240 houses familiar computer components such as disk drives, a processor, storage device, etc. Storage devices include, but are not limited to, disk drives, magnetic tape, solid state memory, bubble memory, etc. Cabinet 240 can include additional hardware such as input/output (“I/O”) interface cards for connecting computer system 210 to external devices external storage, other computers or additional peripherals, which are further described below.</p>

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	<p data-bbox="506 345 758 375">Frerichs at 5:25-33.</p> <p data-bbox="600 448 1934 1214">FIG. 2A is an illustration of basic subsystems in computer system 210 of FIG. 2. This diagram is merely an illustration and should not limit the scope of the claims herein. One of ordinary skill in the art will recognize other variations, modifications, and alternatives. In certain embodiments, the subsystems are interconnected via a system bus 275. Additional subsystems such as a printer 274, keyboard 278, fixed disk 279, monitor 276, which is coupled to display adapter 282, and others are shown. Peripherals and input/output (“I/O”) devices, which couple to I/O controller 271, can be connected to the computer system by any number of means known in the art, such as serial port 277. For example, serial port 277 can be used to connect the computer system to a modem 281, which in turn connects to a wide area network such as the Internet, a mouse input device, or a scanner. The interconnection via system bus allows central processor 273 to communicate with each subsystem and to control the execution of instructions from system memory 272 or the fixed disk 279, as well as the exchange of information between subsystems. Other arrangements of subsystems and interconnections are readily achievable by those of ordinary skill in the art. System memory, and the fixed disk are examples of tangible media for storage of computer programs, other types of tangible media include floppy disks, removable hard disks, optical storage media such as CD-ROMs and bar codes, and semiconductor memories such as flash memory, read-only-memories (“ROM”), and battery backed memory. The present invention can also include a tuner for selecting a channel from a plurality of channels. As merely an example, such a tuner is described in U.S. Ser. No. 6,389,463, commonly assigned, and hereby incorporated by reference. The tuner is coupled to audio output device 291, which provides audio signals to speakers. The speakers output audio in the form of, for example, music, etc. The audio output device can be in the form speakers. Other types of tuning devices, however, can also be used.</p> <p data-bbox="506 1235 768 1265">Frerichs at 5:34-6:3.</p> <p data-bbox="600 1338 1898 1404">Although the above has been described in terms of specific hardware features, it would be recognized that there can be many alternatives, variations, and modifications. For example, any of the above</p>

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	<p>elements can be separated or combined. Alternatively, some of the elements can be implemented in software or a combination of hardware and software. Alternatively, the above elements can be further integrated in hardware or software or hardware and software or the like. It is also understood that the examples and embodiments described herein are for illustrative purposes only and that various modifications or changes in light thereof will be suggested to persons skilled in the art and are to be included within the spirit and purview of this application and scope of the appended claims.</p> <p>Frerichs at 6:4-17.</p> <p>A method according to an embodiment of the present invention can be briefly outlined as follows:</p> <ol style="list-style-type: none">1. Connect client (e.g., personal computer, cellular phone, personal digital assistant, work station, television set top box, pager, internet radio, an internet appliance) to tuning server, which is coupled to a world wide area of computers;2. Optionally, prompt and display indication on a first display portion of the client to user for a station;3. Select indication directed to a certain station from the client;4. Request connection for the certain station from the client to the tuning server through the network;5. Redirect connection from the tuning server to a URL for an audio stream of the certain station at the radio station server;6. Transfer audio stream from the radio station server to the client to play audio stream on audio output device;7. Provide first audio data for first song and second audio data for second song at the server location;8. Provide flag comprising advertisement indication and delay at the server location (or use time or top of hour configuration to decide location of advertisement);9. Add flag onto first audio data, which is now between the first song and second song at the server location (or other location);

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	<p>10. Transfer flagged first audio data and second audio data from server location to client location as streaming audio;</p> <p>11. Retrieve advertisement from storage based upon a user profile;</p> <p>12. Insert advertisement into streaming audio at the flagged location (or at a specific time or top of hour);</p> <p>13. Process streaming audio including the advertisement;</p> <p>14. Output first song, advertisement, and second song through audio output device; and</p> <p>15. Perform other steps, as desirable.</p> <p>Frerichs at 10-17-56.</p> <p>As shown, the method 400 begins at start, step 401. Here, the user of the method begins at a client device, such as the one noted above, as well as others. The method generally uses such a client device with a browsing device, which is used to interface through a world wide network of computers to a server device, called the tuning server in the present embodiment. The client can be a personal computer, cellular phone, personal digital assistant, work station, television set top box, pager, internet radio, an internet appliance, or the like. The client connects (step 403) to the tuning server, which is also coupled to a world wide area of computers. The network is an internet or the Internet or the like. Once the connection is made, which is commonly a TCP type connection, the method prompts (step 405) and displays and indication on a first display portion of the client to user for a radio station to be selected. Here, the client device often includes software such as the IM™ Tuner made by SonicBox, Inc. or the like, but can be others.</p> <p>Frerichs at 11:4-21.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of</p>

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	persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.
[12A] a storage medium; and	<p>Frerichs discloses a storage medium. <i>See</i> citations for claim 1PRE and claim element 9A.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
[12B] a plurality of programming instructions stored on the storage medium and adapted to instantiate a client for playing content and advertisements on cellular devices, the client configured to cause actions to be performed, the actions including	<p>Frerichs discloses a plurality of programming instructions stored on the storage medium and adapted to instantiate a client for playing content and advertisements on cellular devices, the client configured to cause actions to be performed, the actions including. <i>See</i> citations for claim elements 1B-C, 9A, 9C, 9F, and 12C-E.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
[12C] (a) autonomously providing to a sewer	Frerichs discloses autonomously providing to a sewer information associated with a user of a cellular device, the information taken by the cellular device from a message sent to the cellular device from another user of another cellular device, the message identifying characteristics of the cellular device. <i>See</i> citations and

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information associated with a user of a cellular device, the information taken by the cellular device from a message sent to the cellular device from another user of another cellular device, the message identifying characteristics of the cellular device,	<p>obviousness discussion for claim element 1A; <i>see also</i> citations for claim 1PRE and claim elements 9C, 9D, and 12B.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
[12D] (b) receiving from the server at least one advertisement, wherein the at least one received advertisement is determined by the server based at least in part on the provided information,	<p>Frerichs discloses receiving from the server at least one advertisement, wherein the at least one received advertisement is determined by the sewer based at least in part on the provided information. <i>See</i> citations for claim elements 1B, 9E, and 12B; <i>see also</i> citations and obviousness discussion for claim element 1A.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>

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<p>[12E] (c) if a determined time interval occurs, stopping playing of the content on the cellular device and playing the at least one determined advertisement, the playing of the at least one determined advertisement including:</p>	<p>Frerichs discloses if a determined time interval occurs, stopping playing of the content on the cellular device and playing the at least one determined advertisement, the playing of the at least one determined advertisement including: <i>See</i> citations for claim elements 1C, 9C, 9F, and 12B.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
<p>[12F] recording the content which playing was stopped while the at least one determined advertisement is playing, and</p> <p>when the playing of the at least one determined advertisement is completed, resuming the playing of the stopped content from</p>	<p>Frerichs discloses recording the content which playing was stopped while the at least one determined advertisement is playing, and</p> <p>when the playing of the at least one determined advertisement is completed, resuming the playing of the stopped content from where the stopping of the playing of the content occurred, using the recorded content. <i>See</i> citations and obviousness discussion for claim element 1D; <i>see also</i> citations for claim elements 1C, 9C, 9G, and 12B.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>

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where the stopping of the playing of the content occurred, using the recorded content.	
13. The article of claim 12, wherein the provided information additionally includes at least one from the group consisting of a user preference of the cellular device, a user demographic of the cellular device, a user behavior of the cellular device, content played on the cellular device, or a geographic location of the cellular device.	<p>Frerichs discloses the article of claim 12, wherein the provided information additionally includes at least one from the group consisting of a user preference of the cellular device, a user demographic of the cellular device, a user behavior of the cellular device, content played on the cellular device, or a geographic location of the cellular device. <i>See</i> citations for claims 2 and 12; <i>see also</i> citations and obviousness discussion for claim element 1A.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>

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<p>[14PRE] An article of manufacture comprising:</p>	<p>To the extent the preamble limiting, Frerichs discloses an article of manufacture. <i>See</i> citations for claim elements 1A-B and claim elements 14A-B; <i>see also, e.g.:</i></p> <p style="padding-left: 40px;">[A] method for inserting advertisements into streaming audio for transmission over a world wide network of computers. The method includes transmitting audio data from a first server location to a client location. The audio data include a flag and audio content data. The method also includes monitoring the audio data and identifying the flag on the audio data. A step of inserting an advertisement, which is based upon a user profile, into the audio data based upon the flag is also included. The method also outputs the audio content data comprising the advertisement.</p> <p>Frerichs, Abstract.</p> <p style="padding-left: 40px;">FIG. 1 is a simplified diagram of a network computer system 100 according to an embodiment of the present invention. This diagram is merely an example, which should not limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. As shown, the system 100 includes a variety of elements such as a wide area network 109. The wide area network can be, for example, the Internet, an internet, or other type of network, which can include local area networks, intranets, and the like. Connected to the wide area network 109 is an audio tuning server 113, with terminal 102 and database 106. The wide area network allows for communication of other computers such as a client unit 112. Client can be configured with many different hardware components and can be made in many dimensions, styles and locations (e.g., laptop, palmtop, pen, server, workstation and mainframe). As shown, the system includes a lap top computer 119, which is coupled to the Internet, and a remote computing device 117, which is coupled to the Internet in a wireless manner. The remote computing device can include, for example, a cellular phone, a personal digital assistant, a pager, or the like.</p> <p>Frerichs at 3:33-54.</p>

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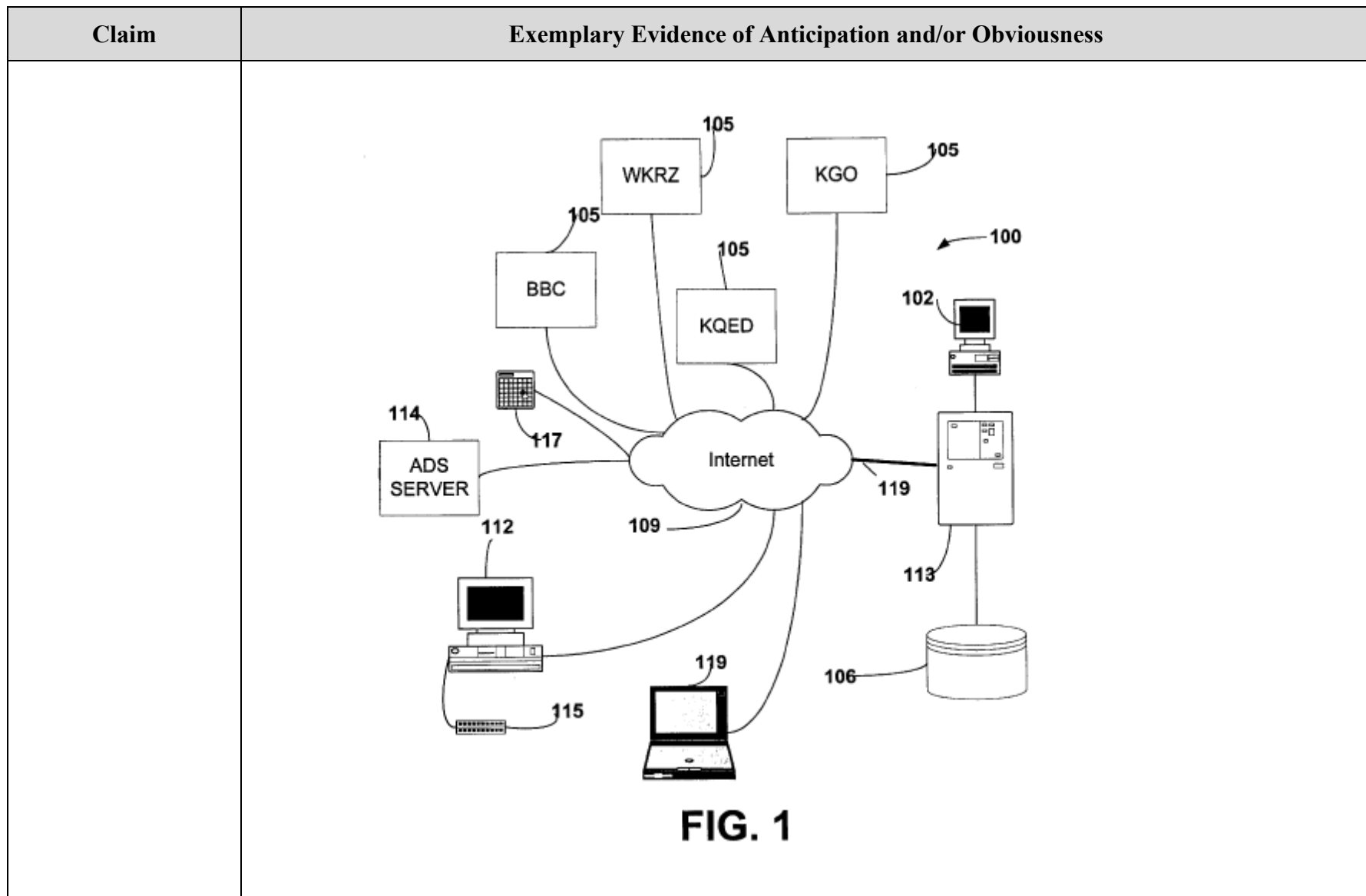


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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p data-bbox="506 345 716 375">Frerichs, Fig. 1.</p> <p data-bbox="600 500 1940 716">The terminal 102 is connected to tuning server 113. This connection can be by a network such as Ethernet, asynchronous transfer mode, IEEE standard 1553 bus, modem connection, universal serial bus, etc. The communication link need not be a wire but can be infrared, radio wave transmission, etc. Server 113 is coupled to the Internet 109. The Internet is shown symbolically as a cloud or a collection of server routers, computers, and other devices 109. The connection to server is typically by a relatively high bandwidth transmission medium such as a T1 or T3 line, but can also be others.</p> <p data-bbox="506 735 758 764">Frerichs at 3:55-65.</p> <p data-bbox="600 841 1940 1276">In certain embodiments, the audio tuning server 113 and database 106 store information and disseminate it to client devices over wide area network 109. The concepts of “client” and “server,” as used in this application and the industry, are loosely defined and, in fact, are not fixed with respect to machines or software processes executing on the machines. Typically, a server is a machine, e.g., or process that is providing information to another machine or process, i.e., the “client,” e.g., that requests the information. In this respect, a computer or process can be acting as a client at one point in time (because it is requesting information) and can be acting as a server at another point in time (because it is providing information). Some computers are consistently referred to as “servers” because they usually act as a repository for a large amount of information that is often requested. For example, a WEB site, which is an electronic site commonly on the World Wide Web (“WWW”), is often hosted by a server computer with a large storage capacity, high-speed processor and Internet link having the ability to handle many high-bandwidth communication lines.</p> <p data-bbox="506 1295 785 1325">Frerichs at 3:66-4:18.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<div data-bbox="630 381 1575 1079"><pre>graph TD 601([START]) --> 603[DOWNLOAD ADS] 603 --> 605[RANDOMIZE] 605 --> 609[BUFFER] 609 --> 515[RETRIEVE AD] 515 --> 511[INSERT AD] 511 --> NEXT_STEPS[NEXT STEPS] 603 --> 521[(LOCAL)] 603 --> 523[(TUNE SERVER)] 603 --> 525[(OTHER SERVER)] 607[PROCESS VIA PROFILE] --- 603 607 --- 605 607 --- 609</pre></div> <p data-bbox="504 1144 714 1177">Frerichs, Fig. 6.</p> <p data-bbox="598 1250 1942 1388">FIG. 3 is a simplified diagram of a data insertion method 300 according to an embodiment of the present invention. This diagram is merely an example which should not unduly limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. At a server location, the method 300 provides first audio data for a first song 301 and</p>

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	<p>second audio data for a second song 305. The first audio data is provided at time T_0, which is an initial or zero time, as given only for reference purposes. As shown, the method also provides a flag comprising advertisement indication and delay at the server location. The flag is data that indicates where an advertisement is to be inserted. The flag often has other information such as the length of the advertisement, current content type (e.g. music/talk), and current ad frequency on this stream (e.g. 2 per hour).</p> <p>Frerichs at 6:57-7:5.</p> <p>As noted, the advertisement can come from one of the plurality of content servers, each corresponding to a radio station with call letter, e.g., BBC, WKRZ, KQED, KGO. Each of these servers can be coupled directly to the network or through a client computer. Each of the servers can be similar or can also be different, depending upon the application. Each of the servers is preferably coupled to a radio station, which has a large depository of music and/or audio information, which can be communicated to the Internet and finally to client destinations. Here, the audio information is converted into a digital streaming format for transmission through the wide area network of computers. The audio data, either from an analog feed from the radio station, or from digital audio files is provided through streaming media software. The streaming media software provides the audio data to clients which request a connection to the audio data. The streaming media software sends the encoded audio to the client as a sequence of data packets. The client receives the packets and can decode the packets to then play the audio content, as noted.</p> <p>Frerichs at 7:6-25.</p> <p>Next, the method adds the flag 303 onto first audio data, which is now between the first song and second song at the server location (or other location). Here, the flag can be provided at the radio station server location. Alternatively, the flag can be provided at a tuning server location or other locations. In most embodiments, the flag is provided onto the first audio data at first time T_1, where $T_1 > T_0$, which signifies a delay 315 between the initial time and the first time. The delay can be caused by a variety of factors</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p>such as latency in the network or the like. In some embodiments, the method transfer the flagged first audio data and second audio data from server location to client location as streaming audio. In some other embodiments, the first audio data and the second audio data are transferred to a server for insertion of advertisements.</p> <p>Frerichs at 7:26-40.</p> <p>The method retrieves an advertisement 309 from storage. Here, the advertisement can be retrieved from location storage 313, which can be at the client location. Alternatively, the advertisement can be retrieved from an advertising server or other third party server 311. In some embodiments, the method may buffer 315 the advertisement and then provide it for insertion into the streaming audio. he method monitors the streaming audio for the flag 307. Once the flag has been found, the method inserts the advertisement between the first audio data and the second audio data. The streaming audio data is now ready for output at an audio output device, which is coupled to the client device. Depending upon the form of the streaming audio, the method can process streaming audio including the advertisement to make it suitable for output. Many conventional techniques can be used for converting the streaming audio into an analog signal for output on a conventional speaker, for example.</p> <p>Frerichs at 7:41-58.</p> <p>Next, the method transfers the streaming audio with flag to the network, step 357. The network can be a local area network, an internet, an intranet, or the Internet. The streaming audio is transferred to the tuning server, which directs the audio to a client for output. In these embodiments, the tuning server can insert the advertisement. Alternatively, the client can also insert the advertisement. Still further the streaming audio with flag can be sent to the client, which inserts the advertisement. Alternatively, a third party server, including the tuning server, can insert the advertisement. These and other embodiments will be recognized by one of ordinary skill in the art.</p> <p>Frerichs at 9:27-38.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p data-bbox="600 394 1942 719">In a specific embodiment, the customized software also provides for targeted advertisements based upon a user profile. Here, the software recognizes a unique identification number (ID) on the server and an associated demographic. The demographic is built from volunteered information and from monitoring of user listening patterns. When the streaming audio begins, the software checks for the most recent list of advertisement sequences available for that user. The list of sequences is generated by first matching the user demographic with the currently running advertisement sequences, for example. The software also checks to see how many times each advertisement has been heard by the user. The information is summarized in an available advertisement list that contains the relevant ad sequences, their associated audio tracks, and the number of times each track can still be heard by this listener before they expire.</p> <p data-bbox="506 740 758 768">Frerichs at 9:39-54.</p> <p data-bbox="600 846 1854 873">A method according to an embodiment of the present invention can be briefly outlined as follows:</p> <ol data-bbox="600 898 1934 1390" style="list-style-type: none"><li data-bbox="600 898 1934 1003">1. Connect client (e.g., personal computer, cellular phone, personal digital assistant, work station, television set top box, pager, internet radio, an internet appliance) to tuning server, which is coupled to a world wide area of computers;<li data-bbox="600 1024 1913 1052">2. Optionally, prompt and display indication on a first display portion of the client to user for a station;<li data-bbox="600 1073 1402 1101">3. Select indication directed to a certain station from the client;<li data-bbox="600 1122 1892 1149">4. Request connection for the certain station from the client to the tuning server through the network;<li data-bbox="600 1170 1913 1247">5. Redirect connection from the tuning server to a URL for an audio stream of the certain station at the radio station server;<li data-bbox="600 1268 1913 1344">6. Transfer audio stream from the radio station server to the client to play audio stream on audio output device;<li data-bbox="600 1365 1892 1390">7. Provide first audio data for first song and second audio data for second song at the server location;

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	<p>8. Provide flag comprising advertisement indication and delay at the server location (or use time or top of hour configuration to decide location of advertisement);</p> <p>9. Add flag onto first audio data, which is now between the first song and second song at the server location (or other location);</p> <p>10. Transfer flagged first audio data and second audio data from server location to client location as streaming audio;</p> <p>11. Retrieve advertisement from storage based upon a user profile;</p> <p>12. Insert advertisement into streaming audio at the flagged location (or at a specific time or top of hour);</p> <p>13. Process streaming audio including the advertisement;</p> <p>14. Output first song, advertisement, and second song through audio output device; and</p> <p>15. Perform other steps, as desirable.</p> <p>Frerichs at 10-17-56.</p> <p>The tuning server is a [sic] often a suitable computer connected to a local or worldwide network of computers. It maintains databases some of which contain various relevant information relating to internet radio stations and internet radio listeners. The tuning server may also compile statistics and/or add data to databases relating to user activity and requests. The tuning server also responds to requests made by the client for information. There are many possible implementations of the tuning server and client such that the server can provide information to the client on request.</p> <p>Frerichs at 11:33-42.</p>
[14A] a storage	Frerichs discloses an article of manufacture comprising a storage medium. <i>See</i> citations for claim 14PRE and

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
medium; and	<p>claim element 14B; <i>see also, e.g.:</i></p> <p>FIG. 1 is a simplified diagram of a network computer system 100 according to an embodiment of the present invention. This diagram is merely an example, which should not limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. As shown, the system 100 includes a variety of elements such as a wide area network 109. The wide area network can be, for example, the Internet, an internet, or other type of network, which can include local area networks, intranets, and the like. Connected to the wide area network 109 is an audio tuning server 113, with terminal 102 and database 106. The wide area network allows for communication of other computers such as a client unit 112. Client can be configured with many different hardware components and can be made in many dimensions, styles and locations (e.g., laptop, palmtop, pen, server, workstation and mainframe). As shown, the system includes a lap top computer 119, which is coupled to the Internet, and a remote computing device 117, which is coupled to the Internet in a wireless manner. The remote computing device can include, for example, a cellular phone, a personal digital assistant, a pager, or the like.</p> <p>Frerichs at 3:33-54.</p>

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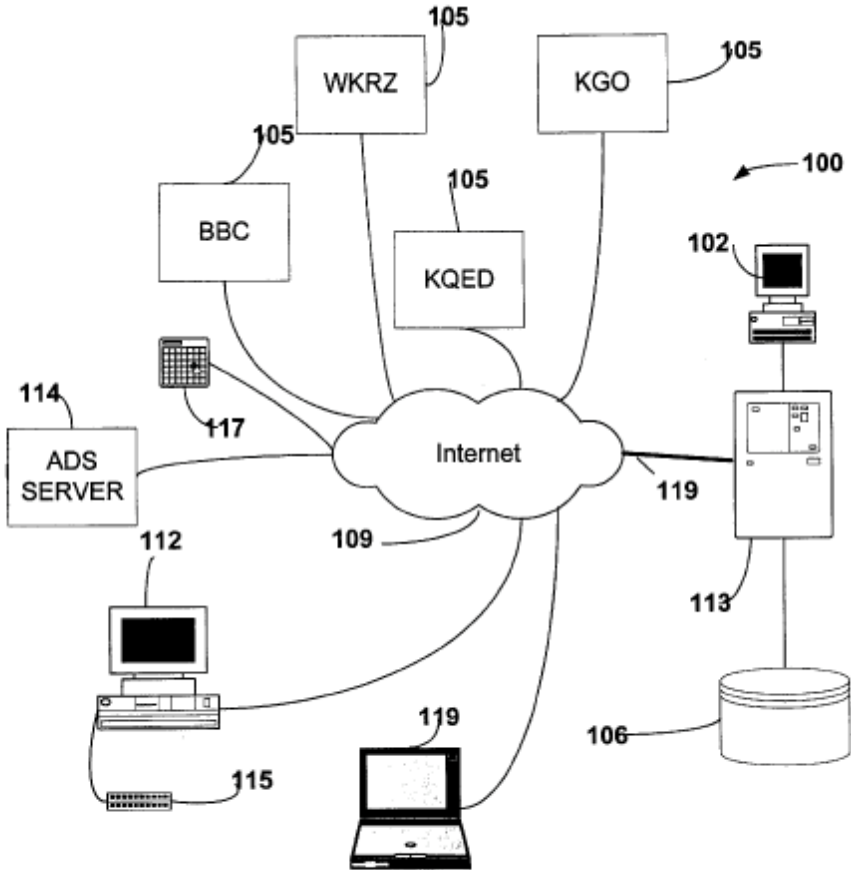
Claim	Exemplary Evidence of Anticipation and/or Obviousness
	 <p>The diagram, labeled FIG. 1, illustrates a network system. At the center is a cloud labeled "Internet" with reference numeral 109. Several entities are connected to this central cloud: three radio stations labeled WKRZ, KQED, and KGO, each with reference numeral 105; a BBC station with reference numeral 105; a calculator with reference numeral 117; an ADS SERVER with reference numeral 114; a desktop computer with reference numeral 112; a laptop with reference numeral 119; a server rack with reference numeral 119; and a database cylinder with reference numeral 106. A reference numeral 100 points to the entire system. A reference numeral 115 points to a keyboard connected to the desktop computer. A reference numeral 113 points to a connection line between the server rack and the database cylinder.</p> <p>FIG. 1</p> <p>Frerichs, Fig. 1.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p data-bbox="604 394 1917 573">In an alternative specific embodiment, the invention provides a system for inserting a targeted advertisement into streaming audio. The system comprises a memory or memories, which includes one or more computer codes for carrying out the functionality described herein. The memory has a code directed to transmitting audio data from a first server location to a client location through a wide area network.</p> <p data-bbox="508 594 758 621">Frerichs at 2:38-45.</p> <p data-bbox="604 699 1938 914">The terminal 102 is connected to tuning server 113. This connection can be by a network such as Ethernet, asynchronous transfer mode, IEEE standard 1553 bus, modem connection, universal serial bus, etc. The communication link need not be a wire but can be infrared, radio wave transmission, etc. Server 113 is coupled to the Internet 109. The Internet is shown symbolically as a cloud or a collection of server routers, computers, and other devices 109. The connection to server is typically by a relatively high bandwidth transmission medium such as a T1 or T3 line, but can also be others.</p> <p data-bbox="508 935 758 963">Frerichs at 3:55-65.</p> <p data-bbox="604 1040 1938 1399">In certain embodiments, the audio tuning server 113 and database 106 store information and disseminate it to client devices over wide area network 109. The concepts of “client” and “server,” as used in this application and the industry, are loosely defined and, in fact, are not fixed with respect to machines or software processes executing on the machines. Typically, a server is a machine, e.g., or process that is providing information to another machine or process, i.e., the “client,” e.g., that requests the information. In this respect, a computer or process can be acting as a client at one point in time (because it is requesting information) and can be acting as a server at another point in time (because it is providing information). Some computers are consistently referred to as “servers” because they usually act as a repository for a large amount of information that is often requested. For example, a WEB site, which is an electronic site commonly on the World Wide Web (“WWW”), is often hosted by a server</p>

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	<p data-bbox="604 345 1864 410">computer with a large storage capacity, high-speed processor and Internet link having the ability to handle many high-bandwidth communication lines.</p> <p data-bbox="506 435 783 459">Frerichs at 3:66-4:18.</p> <p data-bbox="604 540 1906 751">The tuning server is a [sic] often a suitable computer connected to a local or worldwide network of computers. It maintains databases some of which contain various relevant information relating to internet radio stations and internet radio listeners. The tuning server may also compile statistics and/or add data to databases relating to user activity and requests. The tuning server also responds to requests made by the client for information. There are many possible implementations of the tuning server and client such that the server can provide information to the client on request.</p> <p data-bbox="506 776 772 800">Frerichs at 11:33-42.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<div data-bbox="598 342 1375 927"><pre>graph TD 601([START]) --> 603[DOWNLOAD ADS] 603 --> 607[PROCESS VIA PROFILE] 603 --> 600 600 --> 521[(LOCAL)] 600 --> 523[(TUNE SERVER)] 600 --> 525[(OTHER SERVER)] 603 --> 605[RANDOMIZE] 605 --> 609[BUFFER] 609 --> 515[RETRIEVE AD] 515 --> 511[INSERT AD] 511 --> NEXT_STEPS[NEXT STEPS]</pre></div> <p data-bbox="940 1060 1066 1105">FIG. 6</p> <p data-bbox="506 1157 709 1190">Frerichs, Fig. 6.</p> <p data-bbox="506 1263 1885 1406">To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
<p>[14B] a plurality of programming instructions stored on the storage medium and adapted to instantiate a server for providing content and advertisements to cellular devices, the server configured to cause actions to be performed, the actions including</p>	<p>Frerichs discloses an article of manufacture comprising a plurality of programming instructions stored on the storage medium and adapted to instantiate a server for providing content and advertisements to cellular devices, the server configured to cause actions to be performed, the actions including. <i>See</i> citations for claim element 14A; <i>see also</i> citations for claim 1PRE and claim elements 1B-C, 14C-D; <i>see also, e.g.:</i></p> <p style="padding-left: 40px;">A method for inserting advertisements into streaming audio for transmission over a world wide network of computers. The method includes transmitting audio data from a first server location to a client location. The audio data include a flag and audio content data. The method also includes monitoring the audio data and identifying the flag on the audio data. A step of inserting an advertisement, which is based upon a user profile, into the audio data based upon the flag is also included. The method also outputs the audio content data comprising the advertisement.</p> <p>Frerichs, Abstract.</p> <p style="padding-left: 40px;">In an alternative specific embodiment, the invention provides a system for inserting a targeted advertisement into streaming audio. The system comprises a memory or memories, which includes one or more computer codes for carrying out the functionality described herein. The memory has a code directed to transmitting audio data from a first server location to a client location through a wide area network.</p> <p>Frerichs at 2:38-45.</p> <p style="padding-left: 40px;">FIG. 1 is a simplified diagram of a network computer system 100 according to an embodiment of the present invention. This diagram is merely an example, which should not limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. As shown, the system 100 includes a variety of elements such as a wide area network 109. The wide area network can be, for example, the Internet, an internet, or other type of network, which can</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p>include local area networks, intranets, and the like. Connected to the wide area network 109 is an audio tuning server 113, with terminal 102 and database 106. The wide area network allows for communication of other computers such as a client unit 112. Client can be configured with many different hardware components and can be made in many dimensions, styles and locations (e.g., laptop, palmtop, pen, server, workstation and mainframe). As shown, the system includes a lap top computer 119, which is coupled to the Internet, and a remote computing device 117, which is coupled to the Internet in a wireless manner. The remote computing device can include, for example, a cellular phone, a personal digital assistant, a pager, or the like.</p> <p>Frerichs at 3:33-54.</p> <p>The terminal 102 is connected to tuning server 113. This connection can be by a network such as Ethernet, asynchronous transfer mode, IEEE standard 1553 bus, modem connection, universal serial bus, etc. The communication link need not be a wire but can be infrared, radio wave transmission, etc. Server 113 is coupled to the Internet 109. The Internet is shown symbolically as a cloud or a collection of server routers, computers, and other devices 109. The connection to server is typically by a relatively high bandwidth transmission medium such as a T1 or T3 line, but can also be others.</p> <p>Frerichs at 3:55-65.</p> <p>In certain embodiments, the audio tuning server 113 and database 106 store information and disseminate it to client devices over wide area network 109. The concepts of “client” and “server,” as used in this application and the industry, are loosely defined and, in fact, are not fixed with respect to machines or software processes executing on the machines. Typically, a server is a machine, e.g., or process that is providing information to another machine or process, i.e., the “client,” e.g., that requests the information. In this respect, a computer or process can be acting as a client at one point in time (because it is requesting information) and can be acting as a server at another point in time (because it is providing information). Some computers are consistently referred to as “servers” because they usually act as a repository for a large amount of information that is often requested. For example, a WEB site,</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p>which is an electronic site commonly on the World Wide Web (“WWW”), is often hosted by a server computer with a large storage capacity, high-speed processor and Internet link having the ability to handle many high-bandwidth communication lines.</p> <p>Frerichs at 3:66-4:18.</p> <p>In each of the servers 105, information such as advertisements can be inserted into the streaming audio for output at any one of the client devices. Information can also be inserted into the streaming audio at server 113. Additionally, information such as advertisements can be inserted into the streaming audio from an advertisement server 114, which can store advertisements for use with the streaming audio. The advertisements can be sent using a broadcast model, where the advertisements can be distributed to a group of users. Alternatively, they can be sent to a targeted group of users. Still further, a specific advertisement can be sent to a specific client, where the advertisement is carried by the streaming media. Further details of the processing hardware and software are shown below and illustrated by the Figures.</p> <p>Frerichs at 4:44-57.</p> <p>FIG. 3 is a simplified diagram of a data insertion method 300 according to an embodiment of the present invention. This diagram is merely an example which should not unduly limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, modifications, and alternatives. At a server location, the method 300 provides first audio data for a first song 301 and second audio data for a second song 305. The first audio data is provided at time T_0, which is an initial or zero time, as given only for reference purposes. As shown, the method also provides a flag comprising advertisement indication and delay at the server location. The flag is data that indicates where an advertisement is to be inserted. The flag often has other information such as the length of the advertisement, current content type (e.g. music/talk), and current ad frequency on this stream (e.g. 2 per hour).</p> <p>Frerichs at 6:57-7:5.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p>As noted, the advertisement can come from one of the plurality of content servers, each corresponding to a radio station with call letter, e.g., BBC, WKRZ, KQED, KGO. Each of these servers can be coupled directly to the network or through a client computer. Each of the servers can be similar or can also be different, depending upon the application. Each of the servers is preferably coupled to a radio station, which has a large depository of music and/or audio information, which can be communicated to the Internet and finally to client destinations. Here, the audio information is converted into a digital streaming format for transmission through the wide area network of computers. The audio data, either from an analog feed from the radio station, or from digital audio files is provided through streaming media software. The streaming media software provides the audio data to clients which request a connection to the audio data. The streaming media software sends the encoded audio to the client as a sequence of data packets. The client receives the packets and can decode the packets to then play the audio content, as noted.</p> <p>Frerichs at 7:6-25.</p> <p>Next, the method adds the flag 303 onto first audio data, which is now between the first song and second song at the server location (or other location). Here, the flag can be provided at the radio station server location. Alternatively, the flag can be provided at a tuning server location or other locations. In most embodiments, the flag is provided onto the first audio data at first time T_1, where $T_1 > T_0$, which signifies a delay 315 between the initial time and the first time. The delay can be caused by a variety of factors such as latency in the network or the like. In some embodiments, the method transfer the flagged first audio data and second audio data from server location to client location as streaming audio. In some other embodiments, the first audio data and the second audio data are transferred to a server for insertion of advertisements.</p> <p>Frerichs at 7:26-40.</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p>The method retrieves an advertisement 309 from storage. Here, the advertisement can be retrieved from location storage 313, which can be at the client location. Alternatively, the advertisement can be retrieved from an advertising server or other third party server 311. In some embodiments, the method may buffer 315 the advertisement and then provide it for insertion into the streaming audio. The method monitors the streaming audio for the flag 307. Once the flag has been found, the method inserts the advertisement between the first audio data and the second audio data. The streaming audio data is now ready for output at an audio output device, which is coupled to the client device. Depending upon the form of the streaming audio, the method can process streaming audio including the advertisement to make it suitable for output. Many conventional techniques can be used for converting the streaming audio into an analog signal for output on a conventional speaker, for example.</p> <p>Frerichs at 7:41-58.</p> <p>Next, the method transfers the streaming audio with flag to the network, step 357. The network can be a local area network, an internet, an intranet, or the Internet. The streaming audio is transferred to the tuning server, which directs the audio to a client for output. In these embodiments, the tuning server can insert the advertisement. Alternatively, the client can also insert the advertisement. Still further the streaming audio with flag can be sent to the client, which inserts the advertisement. Alternatively, a third party server, including the tuning server, can insert the advertisement. These and other embodiments will be recognized by one of ordinary skill in the art.</p> <p>Frerichs at 9:27-38.</p> <p>In a specific embodiment, the customized software also provides for targeted advertisements based upon a user profile. Here, the software recognizes a unique identification number (ID) on the server and an associated demographic. The demographic is built from volunteered information and from monitoring of user listening patterns. When the streaming audio begins, the software checks for the most recent list of advertisement sequences available for that user. The list of sequences is generated by first matching the user demographic with the currently running advertisement sequences, for example. The software also</p>

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p>checks to see how many times each advertisement has been heard by the user. The information is summarized in an available advertisement list that contains the relevant ad sequences, their associated audio tracks, and the number of times each track can still be heard by this listener before they expire.</p> <p>Frerichs at 9:39-54.</p> <p>A method according to an embodiment of the present invention can be briefly outlined as follows:</p> <ol style="list-style-type: none">1. Connect client (e.g., personal computer, cellular phone, personal digital assistant, work station, television set top box, pager, internet radio, an internet appliance) to tuning server, which is coupled to a world wide area of computers;2. Optionally, prompt and display indication on a first display portion of the client to user for a station;3. Select indication directed to a certain station from the client;4. Request connection for the certain station from the client to the tuning server through the network;5. Redirect connection from the tuning server to a URL for an audio stream of the certain station at the radio station server;6. Transfer audio stream from the radio station server to the client to play audio stream on audio output device;7. Provide first audio data for first song and second audio data for second song at the server location;8. Provide flag comprising advertisement indication and delay at the server location (or use time or top of hour configuration to decide location of advertisement);9. Add flag onto first audio data, which is now between the first song and second song at the server location (or other location);10. Transfer flagged first audio data and second audio data from server location to client location as streaming audio;

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Claim	Exemplary Evidence of Anticipation and/or Obviousness
	<p>11. Retrieve advertisement from storage based upon a user profile;</p> <p>12. Insert advertisement into streaming audio at the flagged location (or at a specific time or top of hour);</p> <p>13. Process streaming audio including the advertisement;</p> <p>14. Output first song, advertisement, and second song through audio output device; and</p> <p>15. Perform other steps, as desirable.</p> <p>Frerichs at 10-17-56.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>
[14C] (a) receiving information associated with a user of a cellular device from the cellular device, independent of user input, the information taken by the cellular device	<p>Frerichs discloses receiving information associated with a user of a cellular device from the cellular device, independent of user input, the information taken by the cellular device from a message sent to the cellular device from another user of another cellular device, the message identifying characteristics of the user of cellular device. <i>See</i> citations and obviousness discussion for claim element 1A; <i>see also</i> citations for claim 1PRE and claim elements 14A-B.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve</p>

Exhibit 414-1

INVALIDITY OF U.S. PATENT NO. 7,376,414 BY U.S. PATENT NO. 6,684,249 (“FRERICHS”)

Claim	Exemplary Evidence of Anticipation and/or Obviousness
from a message sent to the cellular device from another user of another cellular device, the message identifying characteristics of the user of cellular device,	predictable results.
[14D] (b) employing the received information to determine at least one advertisement to be played on the cellular device, and	<p>Frerichs discloses employing the received information to determine at least one advertisement to be played on the cellular device. <i>See</i> citations and obviousness discussion for claim elements 1A-B; <i>see also</i> citations for claim 1PRE and claim elements 14A-B.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results. <i>See, e.g.:</i></p>
[14E] (c) providing the at least one determined advertisement to the cellular device, wherein if a determined time interval occurs, playing of the content by the	<p>Frerichs discloses providing the at least one determined advertisement to the cellular device, wherein if a determined time interval occurs, playing of the content by the cellular device is stopped and the at least one determined advertisement is played on the cellular device, the playing of the at least one determined advertisement including: <i>See</i> citations for claim elements 1B-C and 14A-B; <i>see also</i> citations for claim 1PRE and 14PRE.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve</p>

Exhibit 414-1

INVALIDITY OF U.S. PATENT NO. 7,376,414 BY U.S. PATENT NO. 6,684,249 (“FRERICHS”)

Claim	Exemplary Evidence of Anticipation and/or Obviousness
cellular device is stopped and the at least one determined advertisement is played on the cellular device, the playing of the at least one determined advertisement including:	predictable results.
<p>[14F] recording the content which the playing was stopped while the at least one determined advertisement is playing, and</p> <p>when the playing of the at least one determined advertisement is completed, resuming the playing of the stopped content from where the stopping of the playing of the content occurred,</p>	<p>Frerichs discloses recording the content which the playing was stopped while the at least one determined advertisement is playing, and</p> <p>when the playing of the at least one determined advertisement is completed, resuming the playing of the stopped content from where the stopping of the playing of the content occurred, using the recorded content. <i>See</i> citations and obviousness discussion for claim element 1D; <i>see also</i> citations for claim 14PRE, claim 1PRE, and claim elements 1C, 14A-B.</p> <p>To the extent this limitation is not expressly and/or inherently disclosed, such limitation is obvious, even without resorting to the disclosures of any other reference, because it was within the common knowledge of persons of ordinary skill in the art, and was used in the claims according to known methods, to achieve predictable results.</p>

Exhibit 414-1

INVALIDITY OF U.S. PATENT NO. 7,376,414 BY U.S. PATENT NO. 6,684,249 (“FRERICHS”)

Claim	Exemplary Evidence of Anticipation and/or Obviousness
using the recorded content.	