

DESCRIPTION

RELATED APPLICATIONS

This application is a continuation of U.S. patent application Ser. No. ~~10/947,755-13/117,507~~, filed May 27, 2011, which is a continuation of U.S. patent application Ser. No. 12/495,190, filed on Jun. 30, 2009, which is now U.S. Pat. No. 7,953,390, which is a continuation of U.S. patent application Ser. No. 12/015,320, filed Jan. 16, 2008, which is now U.S. Pat. No. 7,778,595, which issued on Aug. 17, 2010, which is a continuation of U.S. patent application Ser. No. 10/947,755, filed on Sep. 23, ~~2004 and 2004~~, which is now U.S. Pat. No. 7,324,833, ~~to issue Jan. 29, 2008~~ entitled "~~System and Method for Connecting a Portable Audio Player to an Automobile Sound System,~~" which issued on Jan. 29, 2008, which is a continuation of U.S. patent application Ser. No. 09/~~537,812 (537,812)~~, filed on Mar. 28, ~~2000 and 2000~~, which is now U.S. Pat. No. 7,187,947, which issued Mar. 6, 2007) entitled "~~System and Method for Communicating Selected Information to an Electronic Device,~~" on Mar. 6, 2007, the disclosures of which are all hereby incorporated herein by reference in their entirety for all purposes.

FIELD OF THE DISCLOSURE

The present disclosure relates to digitally stored content and, more specifically, to a content delivery system and method.

BACKGROUND

The first commercial radio stations in the United States began operation around 1920. Today, there may be as many as 12,000 radio stations in the United States programming in several distinct formats. When broadcasting their respective signals, these radio stations often use an analog signal, which may be modulated based on frequency or amplitude. Frequency modulated (FM) radio appears to be the dominant entertainment medium while amplitude modulated (AM) radio seems to be a popular outlet for news and information.

Unfortunately, analog radio may be unable to provide the sound quality and consistency that radio listeners desire. As such, several broadcasting related companies have begun to consider a movement to digital radio. Unlike analog radio reception, digital radio reception may be able to provide compact disk (CD) quality sound while remaining virtually immune to interference. Being immune to interference may result in reducing static growls or "multipath" echoes, echoes caused by signal reflections off buildings or topographical features.

Some countries, like Canada and many European countries, may choose to have digital radio operate in a single digital radio band such as the L-band between

1452-1492 megahertz (MHz). This band would allow the reception of both terrestrially and satellite-originated signals. By comparison, FM radio typically operates between 88 and 108 MHz while AM radio typically operates between 0.525 and 1.705 MHz. Neither of these bands allows for easy transmission via satellite.

Canada proposed using the L-Band for digital radio as early as 1992. Several countries throughout the world have since agreed to use the L-Band for digital radio with one notable exception. It appears the United States has chosen not to operate its digital radio within the L-Band. In the United States, the L-Band may already be committed for military uses. Apparently, the United States plans to adopt a system called in-band on-channel, or IBOC, which fits within the AM and FM frequencies.

IBOC technology may offer some advantages over L-Band transmissions. For example, there may be no need for new spectrum allocations. There may be backward and forward compatibility with existing AM and FM systems on both the transmitter and receiver sides, and there may be a low-investment upgrade to digital systems. Unfortunately, a workable IBOC solution is yet to be seen though technology may someday make IBOC digital radio commercially possible.

Even if an IBOC solution becomes commercially available in the United States, IBOC digital radio may suffer from several shortcomings. For example, there may be global standardization problems. Though the United States favors IBOC, the European and Canadian communities seem to favor L-Band making the establishment of a global standard difficult.

SUMMARY

In accordance with teachings of the present disclosure, a system and method for communicating selected information to an electronic device are disclosed that provide significant advantages over prior developed systems. The disclosed embodiments allow a radio listener to create a personal playlist and to listen to this playlist in a wireless atmosphere while enjoying CD quality sound.

According to one aspect of the present disclosure, a system incorporating teachings of the present invention may include a digital engine operable to maintain data representing the selected information in a digital format. In some embodiments, the digital engine may be communicatively coupled to a graphical user interface that allows a user to identify the selected information. The system may also include a communication engine communicatively coupled to the digital engine, the communication engine may be operable to wirelessly communicate the data representing the selected information to an electronic device.

The wireless communication may involve communicating via a cellular communications network. The cellular communications network may be, for

example, the global system for mobile communications network (GSM), which may operate around 1.8 GHz or 1.9 GHz. The cellular communications network may also involve, for example, the code-division multiple access network (CDMA). In some embodiments, the wireless communication may involve communicating via a high-speed, low-power microwave wireless link. For example, the wireless link may include a Bluetooth link, which may operate around 2.4 GHz.

According to another aspect of the present invention, a system for communicating selected information to an electronic device is disclosed. The system includes a digital engine operable to maintain data associated with selected audio information and a communication engine communicatively coupled to the digital engine, the communication engine operable to initiate wireless communication of the data to the electronic device.

According to another aspect of the present invention, a method for communicating selected audio information to an electronic device is provided. The method includes maintaining data associated with the selected audio information using a digital engine, and initiating wireless communication of the data to the electronic device.

According to another aspect of the present invention, an electronic device for receiving selected audio information via wireless communication is provided. The device includes a communication module operable to receive wireless communication of the selected audio information, a storage medium operably coupled to the communication module, the storage medium operable to store the selected audio information, and a processor module coupled to the communication module, the processor module operable to process the received selected audio information.

According to another aspect of the present invention, a method for communicating selected audio information to an electronic device is provided. The method includes presenting information associated with audio information within an interface associated with a communication network, receiving an input from a user identifying the selected information, maintaining data associated with the selected audio information using digital engine, and initiating wireless communication of the data to the electronic device.

According to a particularized aspect of the present invention the interface operates in a browsing environment and the wireless communication operates outside the browsing environment.

Other technical advantages will be apparent to those of ordinary skill in the art in view of the following specification, claims, and drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

A more complete understanding of the present embodiments and advantages thereof may be acquired by referring to the following description taken in conjunction with the accompanying drawings, in which like reference numbers indicate like features, and wherein:

FIG. 1 depicts a general system for wirelessly communicating selective information to an electronic device in accordance with one aspect of the present invention;

FIG. 2 illustrates a block diagram of a method of wirelessly communicating selected information to an electronic device;

FIG. 3 illustrates an electronic device operable to receive selected audio information in accordance with the teachings of the present invention;

FIG. 4 illustrates a graphical user interface (GUI) for displaying selectable audio information according to one aspect of the present invention; FIG. 5A illustrates a portable radio system having a mount for an electronic device according to one embodiment of the present invention;

FIG. 5B illustrates an automobile console having a mount for coupling an electronic device according to one aspect of the present invention;

FIG. 6 illustrates a block diagram of a system for communicating voice mail messages using email according to one embodiment of the present invention;

FIG. 7 illustrates a flow chart for providing voice email messages according to one embodiment of the present invention;

FIG. 8 illustrates a flow diagram of a method for providing selected audio information to an electronic device according to one embodiment of the present invention; and

FIG. 9 illustrates an automobile console having a mount for an electronic device according to one embodiment of the present invention.

DETAILED DESCRIPTION ~~OF THE DRAWINGS~~

The conceptual groundwork for the present invention includes wirelessly communicating selective information to an electronic device. According to one aspect, a user may interact with the Internet to select information, such as audio information, and wirelessly communicate the selected information to an electronic device. The electronic device receives the information via a wireless communications network and processes the information accordingly. In a particularized form, a user may select information from an Internet website operable to allow selectivity of audio information such as songs, on-

line radio stations, on-line broadcasts, streaming audio, or other selectable information. Upon selecting the audio information, information or data associated with the selected audio information is wirelessly communicated to an electronic device. The electronic device may then be used to process the selected audio information. In this manner, a user may receive selective audio information via a wireless electronic device.

In one form, the electronic device may be operable to communicate with an individual's automobile audio system. A user may select audio information utilizing a personal computer with access to a website operable to display selectable audio information. The selected audio information may then be wirelessly communicated to the electronic device associated with an automobile's audio system. Therefore, upon receiving the selected audio information, a user may access and play the received audio information utilizing the electronic device in association with the automobile's audio system.

The present invention is not limited to communicating only audio information. One skilled in the art can appreciate that other types of information, such as video, textual, etc. may be communicated utilizing the systems and methods disclosed herein without departing from the spirit and scope of the present invention. Additionally, it will be understood that information may be formatted in a plurality of ways at different phases of communication without losing the underlying content of the selected information. For example, an audio file may be formatted, segmented, compressed, modified, etc. for the purpose of providing or communicating the audio invention. Therefore, the term "audio information" or "information" is used in a general sense to relate to audio information in all phases of communication.

FIG. 1 depicts a general system for wirelessly communicating selective information to an electronic device in accordance with one aspect of the present invention. The system, illustrated generally at **100**, includes a digital engine **101** coupled to a communications engine **102**. Communications engine **102** is remotely coupled to an electronic device **103**. Digital engine **101** may be directly or indirectly coupled to storage device **105** operable to store information. Digital engine **101** maintains information or data associated with selected information in a digital format. The information may be stored within storage device **105** or other storage devices operable to maintain data or information associated with the selected information.

Communications engine **102** is communicatively coupled to digital engine **101** and operable to wirelessly communicate the selected information to electronic device **103**. During operation, audio information may be selected by a user utilizing a personal computer or

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