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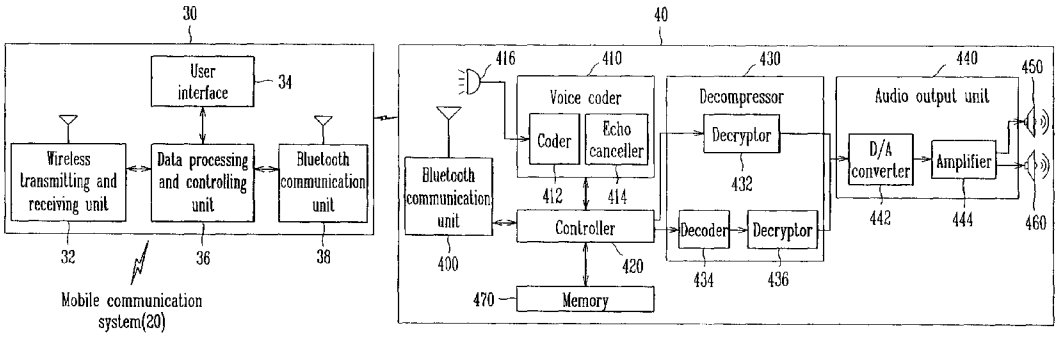
(54) Title: ON-LINE MUSIC DATA PROVIDING SYSTEM VIA BLUETOOTH CAR KIT



(57) Abstract: Disclosed is an online music-data providing system via a Bluetooth car kit which comprises: a music-data providing server for providing music data through a network; a mobile communication system connected to the network; a mobile station for wirelessly accessing the mobile communication system and performing the Bluetooth protocol; and a Bluetooth car kit installed in a vehicle, having a Bluetooth function for performing the Bluetooth protocol, for performing short range radio links by the Bluetooth protocol to the mobile station, receiving the music data from the music-data-providing server through the mobile station, reproducing them, and outputting them. Since the music files distributed by the music-data-providing server are encoded, they are not transmitted or reproduced to other devices except the car kit. Further, the present invention provides various categories of contents in addition to the online music data distribution service through the car kit.

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ON-LINE MUSIC DATA PROVIDING SYSTEM VIA BLUETOOTH CAR KIT

CROSS REFERENCE TO RELATED APPLICATION

This application is based on Korea Patent Application No. 2001-28429 filed on May 23, 2001 in the Korean Intellectual Property Office, the content of which is incorporated herein by reference.

BACKGROUND OF THE INVENTION

(a) Field of the Invention

The present invention relates to an online music-data-providing system. More specifically, the present invention relates to an online music-data-providing system via a car kit.

(b) Description of the Related Art

As online data transmission speeds have been enhanced because of dissemination of the Internet, online music data distribution services for distributing music files through the Internet have become available.

Also, wireless data terminals such as mobile stations have spread, and accordingly, wireless data communication services, and in particular, wireless Internet services using them, have increased.

The wireless Internet services support terminals that adopt the HTTP (Hyper Text Transfer Protocol) and the WAP (Wireless Application Protocol) to use the wireless Internet.

Recently, Bluetooth, a short range radio communication standard for wirelessly linking a computer and a peripheral device, a mobile station and a

computer, and home appliances respectively installed within a short range with each other to thereby enable bidirectional and real-time communication has been adopted, and hardwired modules that realize Bluetooth have been distributed.

A car kit as embodied in the present invention is a car audio system and a microphone installed on it. In preparation for a voice call service as well as for data communication such as with mobile stations, a microphone is provided to a car audio system, and a user sends the user's voice using the microphone.

As the number of vehicles distributed has increased, drivers have come to drive their cars longer and they listen to music for a longer time, but most of them listen to music from radio music programs, music cassette tapes, or CDs through a car audio system installed in their own car.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide an online music-data-providing system for downloading music data to the system through a car kit on line and reproducing them in cooperation with an online music source distribution service, a wireless Internet service, and Bluetooth technology.

In one aspect of the present invention, an online music-data-providing system via a Bluetooth car kit comprises: a music-data-providing server for providing music data on line through a network; a mobile communication system connected to the network; a mobile station for

wirelessly accessing the mobile communication system, and performing the Bluetooth protocol for short range links; and a Bluetooth car kit installed in a vehicle, having a Bluetooth function for performing the Bluetooth protocol, for performing short range radio links by the Bluetooth protocol to the mobile station, receiving the music data from the music-data-providing server through the mobile station, reproducing them, and outputting them.

The Bluetooth car kit comprises: a Bluetooth communication unit for performing short range radio links by the Bluetooth protocol to the mobile station; a decompressor for decoding the music data received from the mobile station through the Bluetooth communication unit, and decompressing them; an audio output unit for processing the music data decompressed by the decompressor, reproducing them, and outputting them so that a user may listen to them through a plurality of speakers; a voice coder, comprising a microphone for receiving an external voice and outputting a corresponding voice signal, for processing the voice signal output through the microphone and outputting the same; and a controller for controlling the Bluetooth communication unit, the decompressor, the audio output unit, and the voice coder to control the whole operation of the car kit.

The mobile station comprises: a wireless transmitting and receiving unit for receiving the music data from the music-data-providing server through radio links to the mobile communication system; a user interface for receiving a user instruction, outputting it, and displaying predetermined information to the user; a Bluetooth communication unit for performing short range radio links by the Bluetooth protocol to the Bluetooth car kit; and a controller for

controlling the wireless transmitting and receiving unit, the user interface, and the Bluetooth communication unit to control the whole operation of the mobile station.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings, which are incorporated in and constitute a part of the specification, illustrate an embodiment of the invention, and, together with the description, serve to explain the principles of the invention:

FIG. 1 shows a block diagram of an online music-data-providing system via a car kit according to a preferred embodiment of the present invention;

FIG. 2 shows a detailed block diagram of a mobile station and a car kit in the online music-data-providing system of FIG. 1; and

FIGs. 3(a) and 3(b) show an operation flowchart of the online music-data-providing system via a car kit according to a preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the following detailed description, only the preferred embodiment of the invention has been shown and described, simply by way of illustration of the best mode contemplated by the inventor(s) of carrying out the invention. As will be realized, the invention is capable of modification in various obvious

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