DESCRIPTION

VEHICLE-INFORMATION-PROVIDING METHOD, VEHICLE-INFORMATION-PROVIDING SYSTEM, INFORMATION TERMINAL APPARATUS, AND CENTER

TECHNICAL FIELD

The present invention relates to an information-providing method and an information-providing system for providing various information, in particular, vehicle information regarding a vehicle, from a center to an information terminal apparatus, as well as to the information terminal apparatus and the center.

BACKGROUND ART

Conventionally, as disclosed in, for example, Japanese Unexamined Patent Application Publication No. 2002-207846, vehicle-management-information delivery methods for delivering vehicle management information are known. In a typical vehicle-management-information delivery method, a dedicated directory is provided for each user in a WEB server connected to the Internet, and a vehicle leasing company stores vehicle management data of each vehicle in the dedicated directory. The vehicle user contacts the WEB server using his or her personal computer, and downloads the vehicle management data stored in the dedicated directory.

In addition, as disclosed in, for example, Japanese Unexamined Patent Application Publication No. 10-198733, vehicle-promotion support systems that inform clients when it is time to replace their vehicles are also

known. A typical vehicle-promotion support system executes a vehicle-promotion program to retrieve vehicles that satisfy conditions that the vehicle inspection date is within a designated period, that the travel distance is equal to or more than a designated distance, and that a time from the first-year registration is more than a designated number of years. Then, documents on which the owners of the retrieved vehicles and the vehicle information regarding the vehicles are printed are transmitted to the owners via facsimile.

In the above-described conventional vehicle-management-information delivery method or the vehicle-promotion support system, when the vehicle user (owner) receives the information, the information is downloaded using a personal computer or is transmitted via facsimile. Therefore, the user (owner) may not be able to receive necessary information while riding on the vehicle. Accordingly, there is a possibility that the user cannot receive the necessary information at the optimum time.

DISCLOSURE OF INVENTION

The present invention has been made to solve the above-described problem, and an object of the present invention is to provide a method and an apparatus for providing information regarding a vehicle in real time in accordance with the state of the vehicle.

The present invention is directed to an improvement of a method and an apparatus in which an information terminal apparatus that is mountable in a leased vehicle and a center communicate with each other such that the center provides information regarding vehicle lease to the

information terminal apparatus.

The characteristics of the present invention will be described below. That is, the information terminal apparatus transmits an information request signal to the center, the information request signal including at least identification information for identifying the information terminal apparatus and current-location information of the vehicle. The center receives the transmitted information request signal, certifies the information terminal apparatus using the identification information included in the information request signal, determines whether or not the state of the vehicle satisfies a predetermined condition using the current-location information included in the information request signal, and transmits lease-condition-changing information representing a change in a lease condition of the vehicle if the state of the vehicle satisfies the predetermined condition. Then, the information terminal apparatus receives the lease-condition-changing information transmitted by the center and displays the received lease-condition-changing information. In this case, the predetermined condition preferably includes a condition that a total travel distance of the vehicle calculated on the basis of the current-location information exceeds a predetermined total travel distance. In addition, the predetermined condition preferably includes a condition that a current location represented by the current-location information is within a predetermined distance from a predetermined facility. In addition, the lease-condition-changing information is preferably selected in accordance with a lease type of the vehicle.

According to the above-described structures, the information terminal apparatus can automatically transmit the information request signal

including at least the identification information and the current-location information to the center. The center can receive the information request signal transmitted from the information terminal apparatus and certify the information terminal apparatus using the identification information included in the information request signal. In addition, the center can determine whether or not the state of the vehicle satisfies the predetermined condition using the current-location information included in the received information request signal.

In the above description, the state of the vehicle may be a current total travel distance of the vehicle, a position at which the vehicle is currently placed, etc. When the state of the vehicle is the total travel distance, the predetermined condition is a condition that the total travel distance exceeds a predetermined total travel distance. When the state of the vehicle is the position at which the vehicle is currently placed, the predetermined condition is a condition that the current location of the vehicle is within a predetermined distance from a predetermined facility.

If the center determines that the state of the vehicle satisfies the predetermined condition, the center can transmit the lease-condition-changing information to the information terminal apparatus. At this time, the center can select the lease-condition-changing information to be transmitted in accordance with the lease type, such as a distance-based-payment lease and a residual value lease, of the vehicle. The information terminal apparatus can receive the transmitted lease-condition-changing information and automatically display the contents of the lease-condition-changing information for the user.

Therefore, the user of the leased vehicle can automatically receive

the lease-condition-changing information in accordance with the state of the vehicle and confirm the information that is necessary or useful to the user at an adequate time. Since the lease-condition-changing information can be received at an adequate time, the user can use the leased vehicle more effectively on the basis of the lease-condition-changing information. In addition, since the lease-condition-changing information can be received in accordance with the lease type of the vehicle, the user can receive the lease-condition-changing information that is necessary, which is extremely convenient for the user.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a schematic block diagram illustrating the overall structure of an information-providing system according to the present invention.

Fig. 2 is a schematic block diagram illustrating an on-board information terminal apparatus shown in Fig. 1.

Fig. 3 is a schematic block diagram illustrating a center shown in Fig. 1.

Fig. 4 is a flowchart illustrating a vehicle-information-providing program executed by the on-board information terminal apparatus and the center shown in Fig. 1.

Figs. 5(a) and 5(b) are diagrams illustrating lease-condition-changing information displayed on a display device shown in Fig. 1.

BEST MODE FOR CARRYING OUT THE INVENTION

An embodiment of the present invention will be described below with

reference to the drawings. Fig. 1 is a schematic block diagram illustrating a vehicle-information-providing system according to the present embodiment. The vehicle-information-providing system includes an on-board information terminal apparatus 10 mounted in a vehicle leased to a user (e.g., a distance-based-payment lease, a residual value lease, etc.) and a center 20 that can communicate wirelessly with the on-board information terminal apparatus 10 to provide information regarding the lease of the vehicle. The information regarding the lease includes information useful to the user of the leased vehicle (e.g., information regarding a reduction in price per distance in the case of the distance-based-payment lease and information regarding an increase in residual value in the case of the residual value lease).

As shown in Fig. 2, the on-board information terminal apparatus 10 includes a microcomputer 11, and the microcomputer 11 is connected to a Global Positioning System (GPS) receiver 12, a gyroscope 13, and a vehicle velocity sensor 14. The microcomputer 11 includes a CPU, a ROM, a RAM, a timer, etc., as major components thereof, and controls the general operation of the on-board information terminal apparatus 10 by executing various programs including steps of a program shown in Fig. 4 to be performed by the on-board information terminal apparatus 10. The microcomputer 11 executes processes of requesting and displaying lease-condition-changing information.

The GPS receiver 12, the gyroscope 13, and the vehicle velocity sensor 14 are used to detect the position of the vehicle. The GPS receiver 12 receives electric waves for detecting the current location of the vehicle from satellites and outputs coordinate data representing the current location of the vehicle. The gyroscope 13 detects and outputs the turning speed of

the vehicle that is used for determining the traveling direction of the vehicle. The vehicle velocity sensor 14 detects and outputs the moving velocity of the vehicle. The detection values output from the GPS receiver 12, the gyroscope 13, and the vehicle velocity sensor 14 are supplied to the microcomputer 11 every short, predetermined time period, so that the microcomputer 11 can detect the current location of the vehicle.

The microcomputer 11 is also connected to a communication device 15, an external memory 16, and a display device 17. The communication device 15 provides wireless communication with the center 20. Accordingly, the communication device 15 is connected to a wireless communication antenna 15a. The external memory 16 includes a hard disk and a writable nonvolatile memory, such as a nonvolatile RAM, and stores data including the programs executed by the microcomputer 11, the lease-condition-changing information provided from the center 20, terminal-ID information that is set in advance to identify the on-board information terminal apparatus 10, etc. The display device 17 includes a liquid crystal display (not shown) or the like and displays characters, symbols, maps, etc., to visually display the lease-condition-changing information to the user.

As shown in Fig. 3, the center 20 includes a control device 21, a memory device 22, and a communication device 23 that are connected to each other so that they can communicate with each other. The control device 21 includes a CPU, a ROM, a RAM, a timer, etc., as major components thereof, and controls the general operation of the memory device 22 and the communication device 23 by executing various programs including steps of the program shown in Fig. 4 to be performed by the center

20. In addition, as described below, the control device 21 performs a calculation process for calculating the total travel distance of the vehicle and a transmission process for transmitting the lease-condition-changing information in response to the request for the lease-condition-changing information received from the on-board information terminal apparatus 10.

The memory device 22 includes a recording medium, such as a hard disk, a CD-ROM, and a DVD-ROM, and a drive device for the recording medium, and stores various data and various programs including the above-mentioned programs executed by the control device 21. In addition, the hard disk in the memory device 22 includes a terminal-ID database 22a, a facility database 22b, and a total-travel-distance database 22c.

The terminal-ID database 22a stores the terminal-ID information in a retrievable manner. The facility database 22b stores facility information and position information of facilities that contract with the center 20 to provide various services to the leased vehicle together with detailed map data. The facility information includes information indicating that the residual value set by the user can be increased if the user receives a predetermined service in the corresponding facility.

The total-travel-distance database 22c stores, in association with the terminal-ID information, the total travel distance that is calculated by the control device 21 when a vehicle-information-providing program, which will be described below, is executed and current-location information of the vehicle received in the previous execution of the vehicle-information-providing program. The total-travel-distance database 22c also stores a criterion base on which the price per distance for the distance-based-payment lease is reduced in accordance with the total travel

distance.

The communication device 23 provides wireless communication with the on-board information terminal apparatus 10. Accordingly, the communication device 23 is connected to a wireless communication antenna 23a. Although the communication between the on-board information terminal apparatus 10 and the center 20 is performed wirelessly using the antenna 15a and the antenna 23a, the communication is performed by a known method and does not have any characteristics. Therefore, when transmission or reception is mentioned in the following description, it is to be understood that a suitable communication method is applied.

Next, the operation of the vehicle-information-providing system structured as described above will be described in detail below. When the user of the vehicle turns on an ignition switch (not shown), the microcomputer 11 in the on-board information terminal apparatus 10 repeatedly executes the vehicle-information-providing program shown in Fig. 4 every short, predetermined time period. The wireless communication between the on-board information terminal apparatus 10 and the center 20 is continuously provided while an ignition switch of the vehicle is being turned on.

The vehicle-information-providing program is started in Step S10, and the microcomputer 11 detects the current location of the vehicle in Step S11. More specifically, the microcomputer 11 detects the current location of the vehicle using detection values obtained from the GPS receiver 12, the gyroscope 13, and the vehicle velocity sensor 14. Then, the microcomputer 11 temporarily stores current-location information representing the detected current location of the vehicle in the RAM (not

shown) and proceeds to Step S12. In the case in which a navigation apparatus is mounted in the vehicle and the current location of the vehicle is continuously detected, the current-location information representing the current location is obtained from the navigation apparatus and is temporarily stored in the RAM.

In Step S12, the microcomputer 11 transmits an information request signal including the current-location information and the terminal-ID information to the center 20 using the communication device 15. More specifically, first, the microcomputer 11 obtains the current-location information that is temporarily stored in the RAM in Step 11 and the terminal-ID information that is stored in the external memory 16 in advance. Then, the microcomputer 11 supplies the information request signal, which includes the current-location information and the terminal-ID information and which represents a request for the center 20 to provide the lease-condition-changing information, to the communication device 15 and issues a command to transmit the information request signal to the center 20. The communication device 15 receives the information request signal from the microcomputer 11 and transmits the information request signal to the center 20.

In the center 20, the control device 21 receives the information request signal, which is transmitted from the on-board information terminal apparatus 10 by the transmission process performed in Step S12, via the communication device 23 in Step C10. The control device 21 temporarily stores the current-location information and the terminal-ID information included in the received information request signal in the RAM (not shown) and proceeds to Step C11.

In Step C11, the control device 21 certifies the on-board information terminal apparatus 10 on the basis of the terminal-ID information that is temporarily stored in the RAM in Step C10. More specifically, the control device 21 searches the terminal-ID database 22a in the memory device 22 for the terminal-ID information that matches the terminal-ID information temporarily stored in the RAM to certify the on-board information terminal apparatus 10. After the on-board information terminal apparatus 10 is certified, the control device 21 proceeds to Step C12.

In Step C12, the control device 21 calculates the total travel distance of the vehicle in which the on-board information terminal apparatus 10 certified in Step C11 is mounted. This will be described in more detail below. When the total travel distance of the vehicle is calculated, first, the control device 21 compares the current-location information of the vehicle obtained by the previous execution of the vehicle-information-providing program (hereafter called previous current-location information) with the current-location information of the vehicle obtained by the present execution of the vehicle-information-providing program (hereafter called present current-location information). Then, the distance between the previous current-location information and the present current-location information (hereafter called an instantaneous travel distance) is calculated.

More specifically, the control device 21 searches the total-travel-distance database 22c in the memory device 22 to obtain the previous current-location information that is associated with the same terminal-ID information as that temporarily stored in the RAM from among all the previous current-location information stored in the total-travel-distance database 22c. Then, the control device 21 compares the obtained

previous current-location information with the present current-location information temporarily stored in the RAM and calculates the instantaneous travel distance by subtracting the previous location represented by the previous current-location information from the present location represented by the present current-location information.

Although the instantaneous travel distance is calculated as a linear distance between the previous and present locations, the previous current-location information and the present current-location information are close to each other since the vehicle-information-providing program is repeatedly executed every short time period. Therefore, even when, for example, the vehicle travels along a curve, the error between the actual travel distance and the calculated instantaneous travel distance is small and does not cause any problem.

After the instantaneous travel distance is calculated, the control device 21 searches the total-travel-distance database 22c to obtain the total travel distance stored in association with the same terminal-ID information as that temporarily stored in the RAM. Then, the control device 21 calculates the latest total travel distance by adding the obtained total travel distance and the calculated instantaneous travel distance. When the latest total travel distance is calculated, the control device 21 supplies the calculated total travel distance and the present current-location information to the memory device 22 in association with the terminal-ID information and issues a command to store them in the total-travel-distance database 22c. In accordance with the command, the memory device 22 stores the supplied total travel distance and the present current-location information in association with the terminal-ID information.

With regard to the calculation of the total travel distance of the vehicle, the on-board information terminal apparatus 10 may, for example, also transmit travel-distance information obtained by an odometer, which is a meter device mounted in the vehicle, to the center 20, and the control device 21 in the center 20 may calculate the total travel distance using the received travel-distance information.

After the total travel distance of the vehicle is calculated in Step C12, the control device 21 retrieves the lease-condition-changing information to be provided to the on-board information terminal apparatus 10 in Step C13. This will be described in more detail below. The control device 21 searches the facility database 22b for a predetermined facility positioned near the current location of the vehicle represented by the current-location information (for example, within 500 m from the current location).

More specifically, the control device 21 determines the current location of the vehicle using the map data stored in the facility database 22b. Then, the control device 21 extracts a facility positioned near the determined current location from among the facilities that contract with the center 20 to provide various services. In addition, the control device 21 searches the facility database 22b for the facility information of the extracted facility. The thus obtained facility information includes information indicating, for example, that the set residual value can be increased if a vehicle inspection is done at the extracted facility. After the facility information is obtained, the control device 21 temporarily stores the obtained facility information in the RAM (not shown) as the lease-condition-changing information to be transmitted to the on-board information terminal apparatus 10.

In addition, the control device 21 searches the total-travel-distance database 22c to obtain the total travel distance stored in Step C12. Then, the control device 21 evaluates the obtained total travel distance with a criterion regarding the total travel distance, for example, a criterion for reducing the price per distance in accordance with the total travel distance in the case of the distance-based-payment lease. If it is determined that the total travel distance satisfies the criterion, information indicating, for example, that the price per distance is reduced is temporarily stored in the RAM (not shown) as the lease-condition-changing information to be transmitted to the on-board information terminal apparatus 10.

In addition, when the facility database 22b and the total-travel-distance database 22c are searched by the control device 21 but there is no lease-condition-changing information to be transmitted to the on-board information terminal apparatus 10, display-clear information for clearing the display of the lease-condition-changing information shown to the user is temporarily stored in the RAM. The display-clear information is used for clearing the display when the lease-condition-changing information becomes too old to be shown to the user as the vehicle travels or when the lease-condition-changing information has already been shown to the use for a predetermined time.

After the retrieval process performed in Step C13, the control device 21 transmits the lease-condition-changing information or the display-clear information to the on-board information terminal apparatus 10 in Step C14. More specifically, the control device 21 supplies the lease-condition-changing information or the display-clear information that is temporarily stored in the RAM to the communication device 23 and issues a

command to transmit the supplied information to the on-board information terminal apparatus 10. In accordance with the command, the communication device 23 transmits the lease-condition-changing information or the display-clear information to the on-board information terminal apparatus 10.

In the on-board information terminal apparatus 10, the microcomputer 11 receives the lease-condition-changing information or the display-clear information, which is transmitted from the center 20 by the transmission process performed in Step C14, via the communication device 15 in Step S13. The microcomputer 11 stores the lease-condition-changing information or the display-clear information in the external memory 16 and proceeds to Step S14.

In Step S14, the microcomputer 11 determines whether or not the display-clear information is received from the center 20 in Step S13. If the display-clear information is received, the result of determination is "Yes" and the microcomputer 11 proceeds to Step S15. In Step S15, the microcomputer 11 causes the display device 17 to clear the display of the lease-condition-changing information that is currently shown. The lease-condition-changing information that is currently shown is the lease-condition-changing information transmitted from the center 20 in the previous execution of the vehicle-information-providing program. After the microcomputer 11 causes the display device 17 to clear the display of the lease-condition-changing information that is currently shown, the microcomputer 11 proceeds to Step S17.

In Step S14, if the display-clear information is not received, the result of determination is "No" and the microcomputer 11 proceeds to Step

S16. In Step S16, the microcomputer 11 supplies the received lease-condition-changing information to the display device 17 and causes the display device 17 to display, for example, a screen shown in Fig. 5(a) or 5(b). More specifically, the microcomputer 11 supplies the lease-condition-changing information stored in the external memory 16 to the display device 17. Then, the microcomputer 11 issues a command to display a screen on the liquid crystal display (not shown) on the basis of the supplied lease-condition-changing information. The display device 17 displays a screen shown Fig. 5(a) or 5(b) in accordance with the command. When the display device 17 displays the lease-condition-changing information, the user can confirm the necessary or useful information in real time.

The lease-condition-changing information shown in Fig. 5(a) is transmitted to, for example, the user of a vehicle on the distance-based-payment lease, to whom the information shown in Fig. 5(a) is very useful. The lease-condition-changing information shown in Fig. 5(b) is transmitted to, for example, the user of a vehicle on the residual value lease, to whom the information shown in Fig. 5(b) is very useful. To receive the lease-condition-changing information selectively in the above-described manner, the terminal-ID information may be set such that the vehicle on the distance-based-payment lease and the vehicle on the residual value lease can be distinguished from each other.

After the microcomputer 11 causes the display device 17 to display the lease-condition-changing information, the microcomputer 11 proceeds to Step S17. In Step S17, the microcomputer 11 once stops the execution of the vehicle-information-providing program.

As is understood from the above, according to the present embodiment, the on-board information terminal apparatus 10 automatically transmits the information request signal including the current-location information and the terminal-ID information to the center 20. The center 20 receives the information request signal transmitted from the on-board information terminal apparatus 10 and certifies the on-board information terminal apparatus 10 using the terminal-ID information included in the information request signal and the terminal-ID database 22a.

The center 20 can calculate the total travel distance of the vehicle using the current-location information included in the received information request signal. Then, the center 20 can determine whether or not the calculated total travel distance is longer than a predetermined total travel distance by comparing the calculated total travel distance of the vehicle and a criterion stored in the total-travel-distance database 22c in advance. In addition, the center 20 can determine whether or not the current location of the vehicle is within a predetermined distance from a predetermined facility. On the basis of these determinations, the center 20 can transmit the predetermined lease-condition-changing information to the on-board information terminal apparatus 10. At this time, the center 20 can transmit the lease-condition-changing information in accordance with the lease type, such as the distance-based-payment lease and the residual value lease, of the vehicle. The on-board information terminal apparatus 10 can receive the transmitted lease-condition-changing information and automatically display the contents of the lease-condition-changing information on the display device 17 for the user.

Therefore, the user of the leased vehicle can automatically receive

the lease-condition-changing information in accordance with the state of the vehicle (the total travel distance and the current location) and confirm the information that is necessary or useful to the user at an adequate time. Since the lease-condition-changing information can be received at an adequate time, the user can use the leased vehicle more effectively. In addition, it is extremely convenient for the user since the lease-condition-changing information can be received in accordance with the lease type of the vehicle.

Although the embodiment of the present invention is described above, the present invention is not limited to the above-described embodiment and modifications thereof, and various changes can be made within the scope of the present invention.

For example, in the above-described embodiment, the on-board information terminal apparatus 10 mounted in the leased vehicle is used for obtaining the lease-condition-changing information. However, the lease-condition-changing information may also be obtained by information terminal apparatuses (mobile phones, mobile computers, etc.) owned by the user.

In such a case, an information terminal apparatus owned by the user and the center 20 are configured to be capable of communicating with each other, and the information request signal is transmitted to the center 20 using the information terminal apparatus. At this time, current-location information detected by, for example, a navigation apparatus mounted in the vehicle is transmitted as the current-location information. In addition, a telephone number used for communicating with the center 20, for example, is transmitted as identification information. Accordingly, the center 20 can

certify the information terminal apparatus, similar to the above-described embodiment, and can transmit the predetermined lease-condition-changing information to the information terminal apparatus. Therefore, effects similar to the above-described embodiment can be obtained.

CLAIMS

1. An information-providing method for allowing an information terminal apparatus that is mountable in a leased vehicle and a center to communicate with each other such that the center provides information regarding vehicle lease to the information terminal apparatus,

wherein the information terminal apparatus performs the step of:

transmitting an information request signal to the center, the information request signal including at least identification information for identifying the information terminal apparatus and current-location information of the vehicle,

wherein the center performs the steps of:

receiving the transmitted information request signal;

certifying the information terminal apparatus using the identification information included in the information request signal;

determining whether or not the state of the vehicle satisfies a predetermined condition using the current-location information included in the information request signal; and

transmitting lease-condition-changing information representing a change in a lease condition of the vehicle if the state of the vehicle satisfies the predetermined condition, and

wherein the information terminal apparatus further performs the steps of:

receiving the lease-condition-changing information transmitted by the center; and

displaying the received lease-condition-changing information.

2. The information-providing method according to Claim 1, wherein the predetermined condition includes a condition that a total travel distance of the vehicle calculated on the basis of the current-location information exceeds a predetermined total travel distance.

3. The information-providing method according to Claim 1, wherein the predetermined condition includes a condition that a current location represented by the current-location information is within a predetermined distance from a predetermined facility.

4. The information-providing method according to one of Claims 1 to 3, wherein the lease-condition-changing information is selected in accordance with a lease type of the vehicle.

5. An information-providing system in which an information terminal apparatus that is mountable in a leased vehicle and a center communicate with each other such that the center provides information regarding vehicle lease to the information terminal apparatus,

wherein the information terminal apparatus includes:

terminal information-transmitting means for transmitting an information request signal to the center, the information request signal including at least identification information for identifying the information terminal apparatus and current-location information of the vehicle;

terminal information-receiving means for receiving lease-condition-changing information that is transmitted from the center and

that represents a change in a lease condition of the vehicle;

terminal storing means for storing the lease-condition-changing information received by the terminal information-receiving means; and

information-displaying means for displaying the lease-condition-changing information stored by the terminal storing means, and

wherein the center includes:

center information-receiving means for receiving the information request signal transmitted from the information terminal apparatus;

certifying means for certifying the information terminal apparatus using the identification information included in the information request signal received by the center information-receiving means;

condition-determining means for determining whether or not the state of the vehicle satisfies a predetermined condition using the current-location information included in the information request signal received by the center information-receiving means;

center storing means for storing the lease-condition-changing information in advance;

retrieving means for retrieving the lease-condition-changing information stored by the center storing means if the condition-determining means determines that the state of vehicle satisfies the predetermined condition; and

center information-transmitting means for transmitting the lease-condition-changing information retrieved by the retrieving means to the information terminal apparatus.

6. The information-providing system according to Claim 5, wherein the center further includes total-travel-distance calculating means for calculating a total travel distance of the vehicle on the basis of the current-location information, and

wherein the predetermined condition includes a condition that the total travel distance calculated by the total-travel-distance calculating means exceeds a predetermined total travel distance.

7. The information-providing system according to Claim 5, wherein the center further includes distance-determining means for determining a distance between a current location represented by the current-location information and a predetermined facility, and

wherein the predetermined condition includes a condition that the distance determined by the distance-determining means is within a predetermined distance from the predetermined facility.

8. The information-providing system according to one of Claims 5 to 7, wherein the center further includes discriminating means for discriminating a lease type of the vehicle on the basis of the identification information, and

wherein the retrieving means of the center retrieves the lease-condition-changing information corresponding to the lease type discriminated by the discriminating means.

9. An information terminal apparatus that is mountable in a leased vehicle and that receives information regarding the vehicle from an external unit, the information terminal apparatus comprising:

information-transmitting means for transmitting an information request signal to the external unit, the information request signal including at least identification information for identifying the information terminal apparatus and current-location information of the vehicle;

information-receiving means for receiving lease-condition-changing information that is transmitted from the external unit and that represents a change in a lease condition of the vehicle;

storing means for storing the lease-condition-changing information received by the information-receiving means; and

information-displaying means for displaying the lease-condition-changing information stored by the storing means.

10. A center for providing various information to an external terminal apparatus, the center comprising:

information-receiving means for receiving an information request signal from the external terminal apparatus, the information request signal including at least identification information for identifying the external terminal apparatus and current-location information of the external terminal apparatus;

certifying means for certifying the external terminal apparatus using the identification information included in the information request signal received by the information-receiving means;

condition-determining means for determining whether or not a predetermined condition is satisfied using the current-location information included in the information request signal received by the information-receiving means;

storing means for storing information to be transmitted to the external terminal apparatus in advance;

retrieving means for retrieving the information stored by the storing means if the condition-determining means determines that the predetermined condition is satisfied; and

information transmitting means for transmitting the information retrieved by the retrieving means to the external terminal apparatus.

11. The center according to Claim 10, wherein the external terminal apparatus is an information terminal apparatus that is mountable in a leased vehicle.

12. The center according to Claim 11, further comprising total-travel-distance calculating means for calculating a total travel distance of the vehicle on the basis of the current-location information,

wherein the predetermined condition includes a condition that the total travel distance calculated by the total-travel-distance calculating means exceeds a predetermined total travel distance.

13. The center according to Claim 11, further comprising distance-determining means for determining a distance between a current location represented by the current-location information and a predetermined facility, and

wherein the predetermined condition includes a condition that the distance determined by the distance-determining means is within a predetermined distance from the predetermined facility.

14. The center according to one of Claims 11 to 13, wherein the information transmitted by the information-transmitting means includes lease-condition-changing information representing a change in a lease condition of the vehicle.