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(54) **DYNAMIC GEOMETRY SUPPORT FOR VEHICLE COMPONENTS**

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G06F 19/00 (2011.01)

(52) **U.S. Cl.**

USPC **701/2**; 701/36; 701/49; 180/287

(58) **Field of Classification Search**

None
See application file for complete search history.

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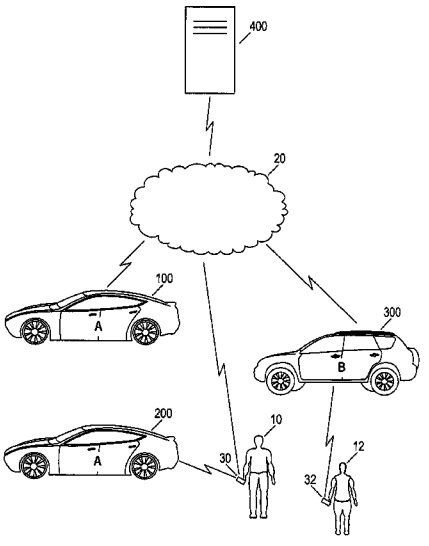
(57) **ABSTRACT**

Apparatuses and methods for adjusting a position of at least one component of a vehicle for a user of the vehicle. A user is identified with a user key associated with the user. The user key and a vehicle identifier associated with the vehicle are transmitted to a server remote from the vehicle. At least one user setting for the vehicle is received from the remote server, with the at least one user setting relating to the user key, the vehicle identifier, and the position of the at least one component. A vehicle system setting is updated with the at least one user setting so as to adjust the position of the at least one component based on the at least one user setting when the vehicle system setting does not correspond with the at least one user setting.

22 Claims, 11 Drawing Sheets



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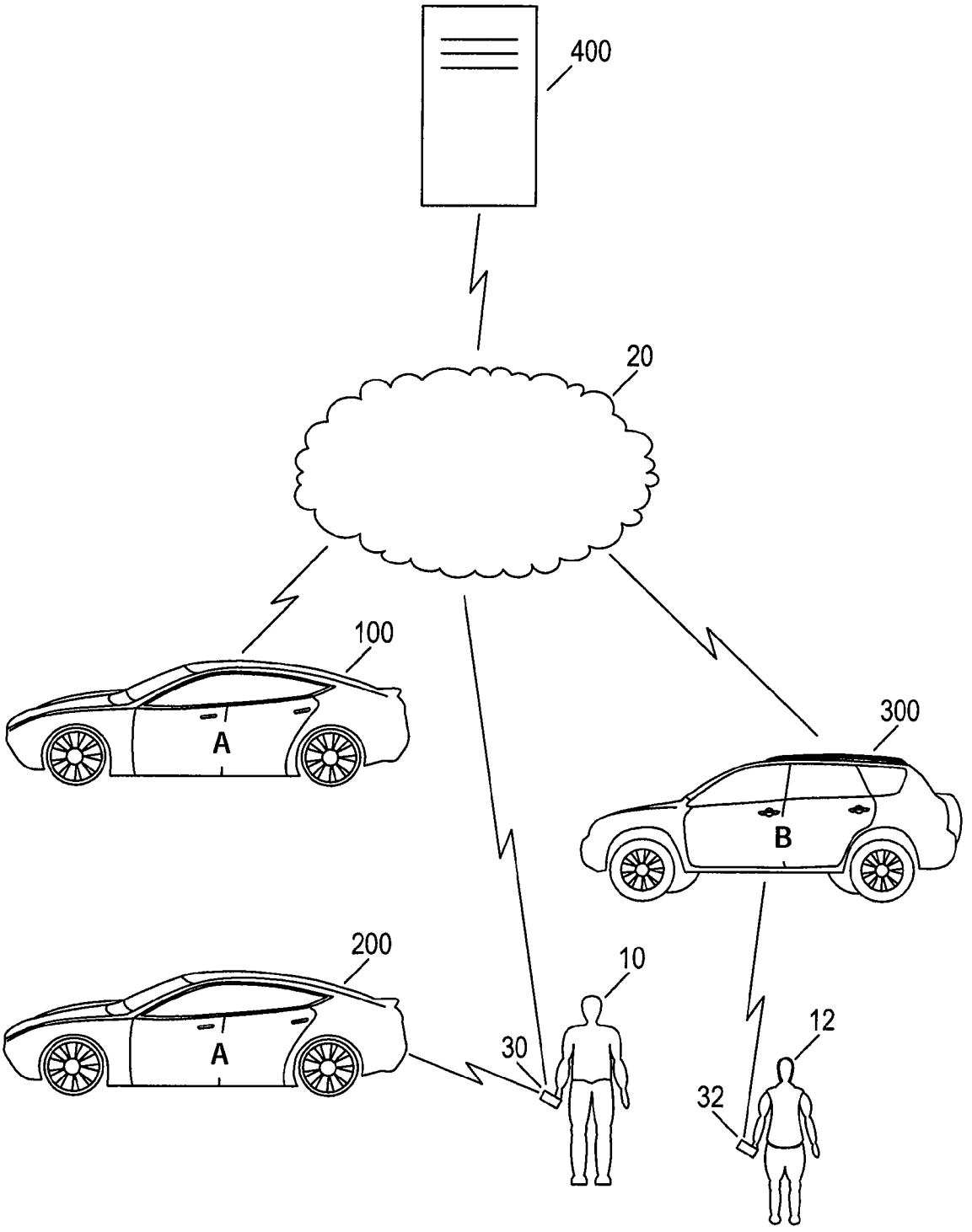

FIG. 1

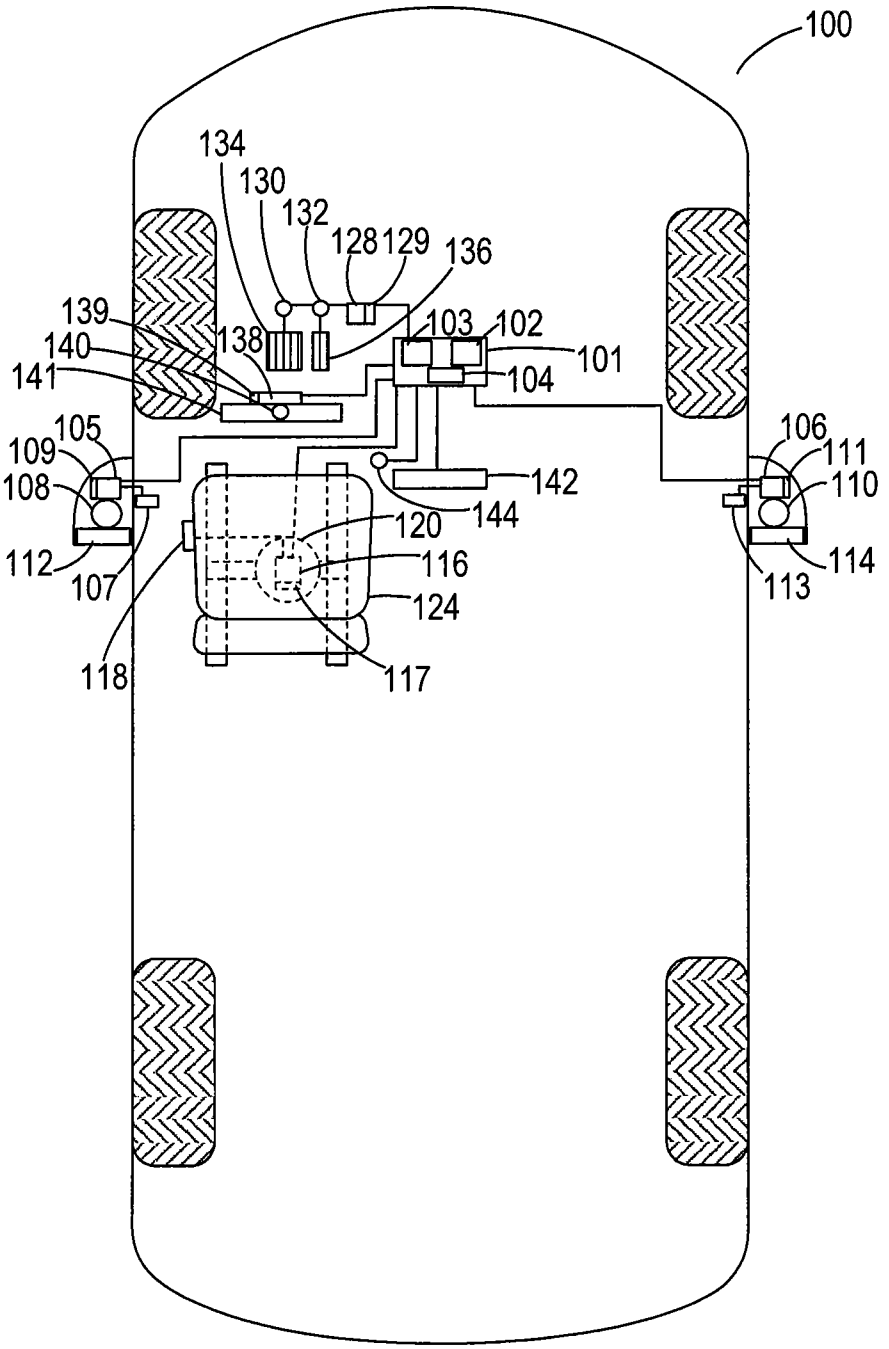
100
134
130
132
128
129
136
139
140
141
138
103
102
101
104
105
109
108
112
107
106
111
110
114
113
142
144
120
116
124
118
117

FIG. 2

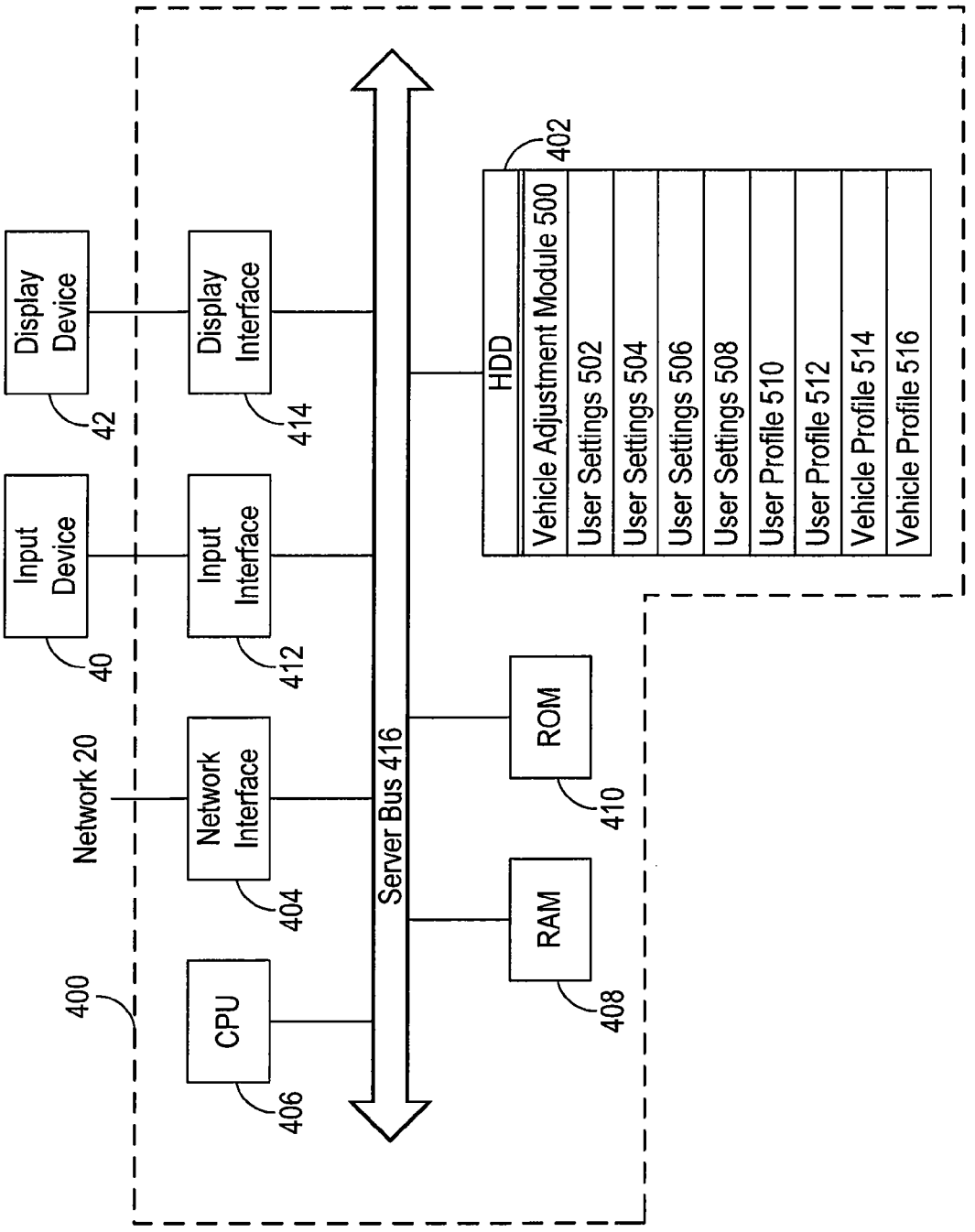
400
Network 20
Server Bus 416
CPU
406
Network Interface
404
Input Device
40
Input Interface
412
Display Device
42
Display Interface
414
RAM
408
ROM
410
HDD
402
Vehicle Adjustment Module 500
User Settings 502
User Settings 504
User Settings 506
User Settings 508
User Profile 510
User Profile 512
Vehicle Profile 514
Vehicle Profile 516

FIG. 3

User Settings 502	
User Key	CB1906X
Vehicle Identifier	Model A
Mirror 1	8.1
Mirror 2	6.4
Seat	7.2
Steering Wheel	1.6
Pedal	0.8
Preferred Music Genre	Classic Rock
Home Address	1060 W. Addison
Work Address	600 Anton

User Settings 504	
User Key	CB1906X
Vehicle Identifier	Model B
Mirror 1	7.9
Mirror 2	6.2
Seat	6.8
Temperature Setpoint	73° F

User Settings 506	
User Key	WS2005Y
Vehicle Identifier	Model A
Mirror 1	8.6
Mirror 2	6.9
Seat	8.1
Steering Wheel	1.2
Pedal	2.5
Preferred Music Genre	Hip Hop
Home Address	333 W. 35th St.

User Settings 508	
User Key	WS2005Y
Vehicle Identifier	Model B
Mirror 1	7.5
Mirror 2	6.4
Seat	7.9
Temperature Setpoint	71° F

FIG. 4

User Profile 510	
User Key	CB1906X
User Eye Point	1.1
User Hip Point	2.4
Recline Value	3.6
Lumbar Value	5.0
Mirror 1 Value	0.82
Mirror 2 Value	0.71
Arm Length	2.1
Preferred Music Genre	Classic Rock
Default Volume Level	4.2
Scheduled Location	L1:0800 M-F
Background Image	—
Language	English
Units	English
Location 1	Home: 1060 W. Addison
Location 2	Work: 600 Anton
Mobile Device 1	John's Phone
Temperature Setpoint	73° F

User Profile 512	
User Key	WS2005Y
User Eye Point	-0.8
User Hip Point	-0.9
Recline Value	4.1
Lumbar Value	0.0
Mirror 1 Value	0.74
Mirror 2 Value	0.76
Arm Length	1.2
Preferred Music Genre	Hip Hop
Default Volume Level	4.9
Scheduled Location	—
Background Image	sox.jpg
Language	English
Units	English
Location 1	Home: 333 W. 35th St.
Mobile Device 1	Bob's Phone
Mobile Device 2	Bob's Laptop
Temperature Setpoint	71° F

FIG. 5

Vehicle Profile 514	
Vehicle Identifier	Model A
Distance Ratio 1	0.95
Distance Ratio 2	0.89
Distance Ratio 3	0.94
Deviation 1	0.12
Deviation 2	-0.30
Deviation 3	-0.21
Music Genre	Yes
Navigation	Yes
Climate	No

Vehicle Profile 516	
Vehicle Identifier	Model B
Distance Ratio 1	1.04
Distance Ratio 2	1.03
Distance Ratio 3	1.21
Music Genre	Yes
Navigation	No
Climate	Yes

FIG. 6

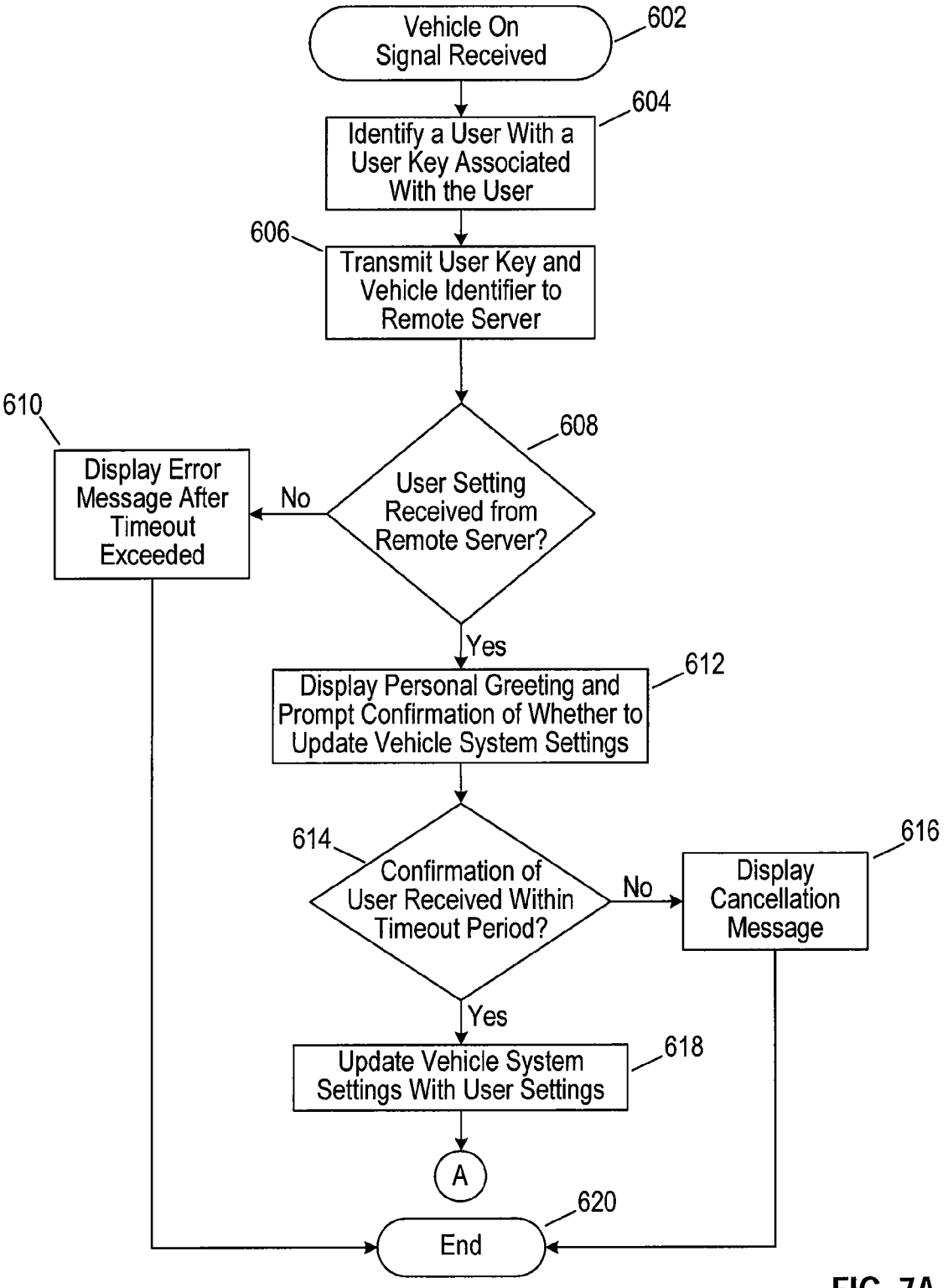
Vehicle On Signal Received
602
Identify a User With a User Key Associated With the User
604
Transmit User Key and Vehicle Identifier to Remote Server
606
User Setting Received from Remote Server?
608
No
Display Error Message After Timeout Exceeded
610
Yes
Display Personal Greeting and Prompt Confirmation of Whether to Update Vehicle System Settings
612
Confirmation of User Received Within Timeout Period?
614
No
Display Cancellation Message
616
Yes
Update Vehicle System Settings With User Settings
618
A
End
620

FIG. 7A

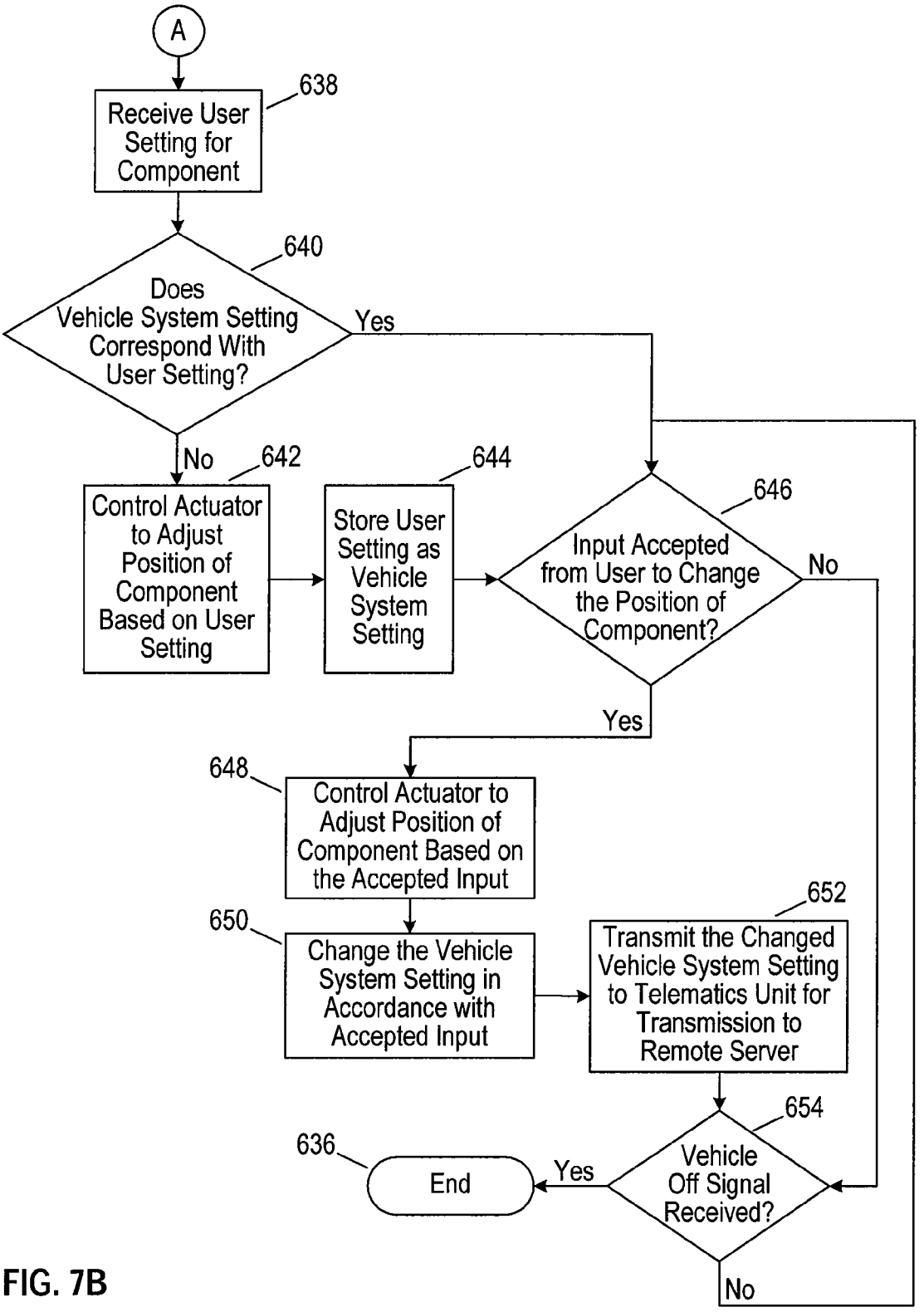
A
638
Receive User Setting for Component
640
Does Vehicle System Setting Correspond With User Setting?
Yes
No
642
Control Actuator to Adjust Position of Component Based on User Setting
644
Store User Setting as Vehicle System Setting
646
Input Accepted from User to Change the Position of Component?
No
Yes
648
Control Actuator to Adjust Position of Component Based on the Accepted Input
650
Change the Vehicle System Setting in Accordance with Accepted Input
652
Transmit the Changed Vehicle System Setting to Telematics Unit for Transmission to Remote Server
654
Vehicle Off Signal Received?
Yes
636
End
No

FIG. 7B

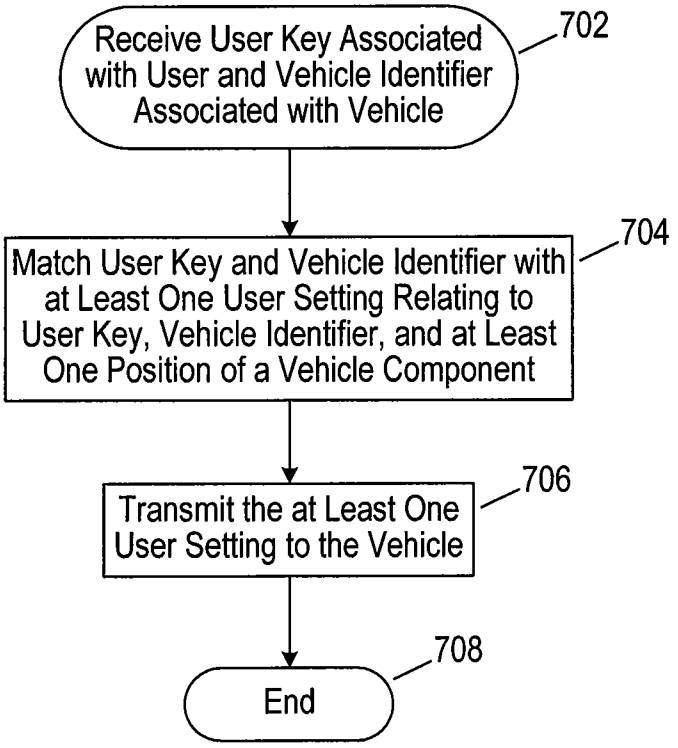
Receive User Key Associated with User and Vehicle Identifier Associated with Vehicle
702
Match User Key and Vehicle Identifier with at Least One User Setting Relating to User Key, Vehicle Identifier, and at Least One Position of a Vehicle Component
704
Transmit the at Least One User Setting to the Vehicle
706
End
708

FIG. 8

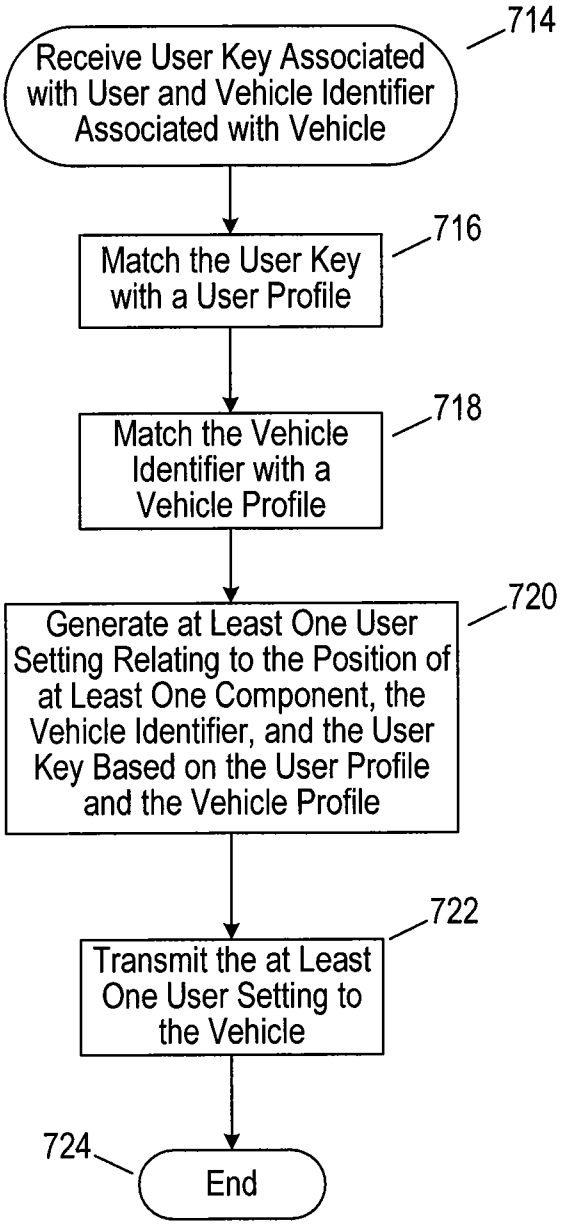
714
Receive User Key Associated with User and Vehicle Identifier Associated with Vehicle
716
Match the User Key with a User Profile
718
Match the Vehicle Identifier with a Vehicle Profile
720
Generate at Least One User Setting Relating to the Position of at Least One Component, the Vehicle Identifier, and the User Key Based on the User Profile and the Vehicle Profile
722
Transmit the at Least One User Setting to the Vehicle
724
End

FIG. 9

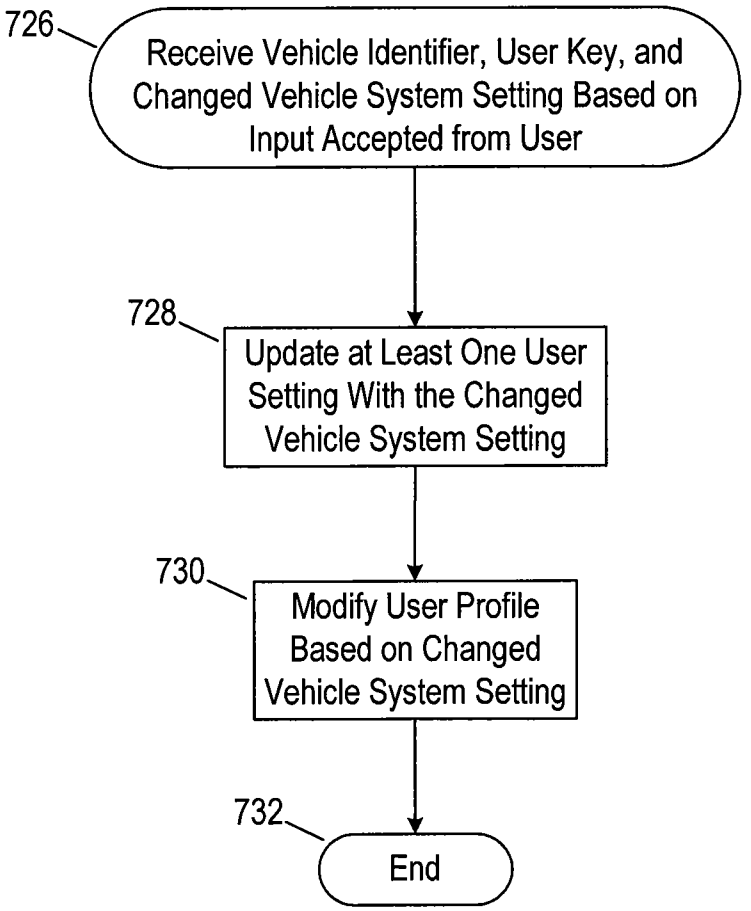
726
Receive Vehicle Identifier, User Key, and Changed Vehicle System Setting Based on Input Accepted from User
728
Update at Least One User Setting With the Changed Vehicle System Setting
730
Modify User Profile Based on Changed Vehicle System Setting
732
End

FIG. 10

DYNAMIC GEOMETRY SUPPORT FOR VEHICLE COMPONENTS

FIELD

The present disclosure relates to vehicles, and more particularly, to user adjustable components in vehicles.

BACKGROUND

Vehicles often include components which can be adjusted by a user of the vehicle. Such adjustable components can include adjustable seats and mirrors. In addition, some vehicles can store position settings for such adjustable components as a group of position settings for a particular user of the vehicle. In such vehicles, the user can automatically adjust the adjustable components in accordance with their position settings by selecting the group of position settings.

SUMMARY

One limitation of the foregoing automatic adjustment is that the settings are only available in one vehicle. If a user drives a different vehicle, they must adjust the settings for many of the adjustable components. In addition, if the different vehicle is unfamiliar to the driver, such as a rental car that is a different make or model from the user's usual vehicle, the user will likely spend more time searching for their preferred settings. In view of these problems, one aspect of the present disclosure involves storing user settings at a server remote from a vehicle so that the user settings can be transmitted to different vehicles for the user.

In one embodiment, a user of a vehicle is identified with a user key associated with the user. The user key and a vehicle identifier associated with the vehicle are transmitted to a server remote from the vehicle. In turn, at least one user setting is received from the remote server. The at least one user setting relates to the user key, the vehicle identifier, and a position of at least one component of the vehicle. A vehicle system setting stored in a memory of the vehicle is updated with the at least one user setting. When the vehicle system setting does not correspond with the at least one user setting, the position of the at least one component is adjusted based on the at least one user setting. By receiving the at least one user setting from the remote server, it is ordinarily possible to automatically adjust positions of components in different vehicles based on the at least one user setting.

According to a further embodiment, an input is accepted from the user to adjust the position of the at least one component and the vehicle system setting is changed in accordance with the accepted input. The changed vehicle system setting is transmitted to the remote server so as to update the at least one user setting with the changed vehicle system setting. This arrangement ordinarily allows for the adjustment of positions of components in different vehicles based on changed preferences of the user.

According to another embodiment, a user key associated with a user of a vehicle and a vehicle identifier associated with the vehicle are received from the vehicle. The user key and the vehicle identifier are matched with at least one user setting stored in a memory, with the at least one user setting relating to the user key, the vehicle identifier, and a position of at least one component of the vehicle. For its part, the at least one user setting is transmitted to the vehicle so as to adjust the position of the at least one component based on the at least one user setting when a vehicle system setting for the position of the at least one component does not correspond with the at least one user setting. By matching the vehicle identifier with the at least one user setting, it is ordinarily possible to facilitate adjustment of positions of components in vehicles having different shapes and sizes, such as vehicles of different makes and models.

According to another embodiment, a user key associated with a user of a vehicle and a vehicle identifier associated with the vehicle are received from the vehicle. The user key is matched with a user profile and the vehicle identifier is matched with a vehicle profile. At least one user setting is generated based on the user profile and the vehicle profile. The at least one user setting relates to the user key, the vehicle identifier, and a position of at least one component of the vehicle. In turn, the at least one user setting is transmitted to the vehicle so as to adjust the position of the at least one component based on the at least one user setting when a vehicle system setting for the position of the at least one component does not correspond with the at least one user setting. Since the at least one user setting is generated based on the vehicle profile, the at least one user setting can usually be generated for vehicles having different geometries that the user has not driven before.

According to further embodiment, a changed vehicle system setting is received from the vehicle which is based on an input accepted from the user. The user profile is modified based on the changed vehicle system setting. This arrangement ordinarily allows for new user preferences to affect the generation of the at least one user setting.

The foregoing summary has been provided so that the nature of this disclosure may be understood quickly. A more complete understanding can be obtained with reference to the following detailed description and to the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The features and advantages of the embodiments of the present disclosure will become more apparent from the detailed description set forth below when taken in conjunction with the drawings. Naturally, the drawings and their associated descriptions illustrate example arrangements within the scope of the claims and do not limit the scope of the claims. Reference numbers are reused throughout the drawings to indicate correspondence between referenced elements.

FIG. **1** is a representative view including vehicles and users for an example embodiment of the present disclosure.

FIG. **2** depicts a schematic of a vehicle according to an embodiment of the present disclosure.

FIG. **3** is a block diagram depicting the internal architecture of a server according to an embodiment of the present disclosure.

FIG. **4** represents various example user settings according to an embodiment of the present disclosure.

FIG. **5** represents various example user profiles according to an embodiment of the present disclosure.

FIG. **6** represents various example vehicle profiles according to an embodiment of the present disclosure.

FIG. **7**A is a flowchart depicting a process for updating vehicle system settings according to an embodiment of the present disclosure.

FIG. **7**B is a flowchart depicting a sub-process of the process of FIG. **7**A for adjusting a position of a component according to an embodiment of the present disclosure.

FIG. **8** is a flowchart depicting a first process for transmitting a user setting to a vehicle according to an embodiment of the present disclosure.

FIG. **9** is a flowchart depicting a second process for transmitting a user setting to a vehicle according to an embodiment of the present disclosure.

FIG. **10** is a flowchart depicting a process for updating user settings and modifying user profiles according to an embodiment of the present disclosure.

DETAILED DESCRIPTION

In the following detailed description, numerous specific details are set forth to provide a full understanding of the present disclosure. It will be apparent, however, to one ordinarily skilled in the art that the present invention may be practiced without some of these specific details. In other instances, well-known structures and techniques have not been shown in detail to avoid unnecessarily obscuring the present disclosure.

FIG. **1** is a representative view relevant to an example embodiment, which includes the vehicles **100**, **200**, and **300** and the users **10** and **12**. As shown in the example of FIG. **1**, vehicles **100** and **200** are the same model or vehicle type (depicted as model A) having substantially the same geometric shape and dimensions. On the other hand, the vehicle **300** is a different model or vehicle type (depicted as model B) having a different geometric shape and dimensions from the vehicles **100** and **200**. Although the vehicles **100**, **200**, and **300** are depicted as passenger automobiles in FIG. **1**, it will be appreciated by those of ordinary skill in the art that the present disclosure is not limited to passenger automobiles and may include other types of vehicles such as trucks, bicycles, motorcycles, or boats.

The users **10** and **12** have different body shapes and dimensions. In addition, the user **10** has a mobile device **30** and the user **12** has a mobile device **32**. The mobile devices **30** and **32** can include, for example, mobile devices such as a mobile phone or smartphone, a tablet computer, a laptop, a smart card, or a key fob. As shown in FIG. **1**, the mobile devices **30** and **32** are wirelessly connected to the vehicles **200** and **300**, respectively. The wireless connection between the mobile devices **30** and **32** and the vehicles **200** and **300** can use various wireless personal area network technologies, such as Bluetooth, infrared, or near-field communications. In operation, the mobile devices **30** and **32** transmit and/or receive data to or from the vehicles **200** and **300** via a wireless connection.

In alternative embodiments, the mobile devices **30** and **32** may allow access to data, or transmit and/or receive data to or from the vehicles **200** and **300** via a physical connection with the vehicles **200** and **300**. Such physical connections can include a USB cable (not shown) or a card reader (not shown) inside the vehicles **200** and **300**. In such alternative embodiments, the mobile devices **30** and **32** can include a memory card, such as a flash drive, or an ignition key.

In the example of FIG. **1**, the vehicles **100**, **200**, and **300** are wirelessly connected to a server **400** via a network **20**. As shown in FIG. **1**, the wireless connection between the vehicle **200** and the server **400** is made through the mobile device **30**. In this regard, the mobile device **30** is connected to the server **400** via the network **20**. The network **20** may use one or several different types of telecommunication networks including, for example, wireless technologies such as cellular, satellite, and wi-fi technologies, in addition to wired technologies such as fiber optic or wired telephone technologies.

The server **400** can include a single device or multiple devices providing remote services such as remote computing and file storage. The server **400** may connect to the network through a wired connection or a wireless connection. In operation, the server **400** receives data from and transmits data to the vehicles **100**, **200**, and **300** via the network **20** and/or the mobile device **30**. In the case of vehicles **100** and **300**, the server **400** communicates directly with the vehicles **100** and **300** via the network **20**. In the case of vehicle **200**, the server **400** communicates with the vehicle **200** via network **20** and the mobile device **30**.

FIG. **2** depicts a schematic for the vehicle **100** according to one embodiment. As shown in the example of FIG. **2**, the vehicle **100** includes a telematics unit **101**, which includes a processor **102**, a memory **103**, and a modem **104**. The processor **102** can be implemented using one or more processors for executing instructions and can include a microcontroller, a Digital Signal Processor (DSP), an Application Specific Integrated Circuit (ASIC), a Field Programmable Gate Array (FPGA), hard-wired logic, analog circuitry and/or a combination thereof. The memory **103** is a computer-readable memory and can include, for example, a non-volatile solid-state memory such as NAND flash. The modem **104** can be implemented as a wireless modem, such a 3G wireless modem.

As shown in the example embodiment of FIG. **2**, the telematics unit **101** is electrically connected to a user interface **142**, which displays information for users of the vehicle **100**, such as users **10** and **12**. The user interface **142** also accepts information from a user via a touchscreen display. The user interface may include a separate display for displaying information and separate buttons for accepting information from a user. In some embodiments, information may be provided to users in an audio format through speakers (not shown) within the vehicle **100**. In such embodiments, information may also be accepted from users in an audio format via a microphone (not shown) inside the vehicle **100**.

In the example of FIG. **2**, the telematics unit **101** is also electrically connected to a biometric sensor **144**, which is capable of identifying a user of the vehicle **100**. In one embodiment, the biometric sensor **144** may include, for example, a fingerprint scanner to identify a user.

In addition, the telematics unit **101** is electrically connected to multiple vehicle system controllers including mirror controllers **105** and **106**, a seat controller **116**, a pedal controller **128**, and a steering wheel controller **138**. These controllers can be implemented as one or more processors for executing instructions and can include a microcontroller, a Digital Signal Processor (DSP), an Application Specific Integrated Circuit (ASIC), a Field Programmable Gate Array (FPGA), hard-wired logic, analog circuitry and/or a combination thereof. The controllers **105**, **106**, **116**, **128**, and **138** each work in conjunction with a memory storing a vehicle system setting for the position of a component of the vehicle **100**. The memory can be separate from the controller or can be integrated with the controller, as in an Application Specific Integrated Circuit (ASIC).

In the example embodiment of FIG. **2**, the mirror controllers **105** and **106** are electrically connected to the mirror actuators **108** and **110**, respectively. The mirror controllers **105** and **106** control the mirror actuators **108** and **110** to adjust a position of the mirrors **112** and **114**. More specifically, the mirror actuators **108** and **110** are each coupled to the mirrors **112** and **114**, respectively, and rotate the mirrors **112** and **114** based on control signals received from the mirror controllers **105** and **106**. The mirror actuators **108** and **110** can include, for example, motors that adjust an orientation angle of the mirrors **112** and **114**, thereby adjusting a position of the mirrors **112** and **114**. The control signals sent from the mirror controllers **105** and **106** are based on vehicle system settings stored in the memories **109** and **111**, respectively. The mirror

controllers **105** and **106** are also electrically connected to the mirror input devices **107** and **113**, respectively. The mirror input devices **107** and **113** can include a button or a joystick for accepting an input from a user to change the position of the mirrors **112** and **114**. For example, when an input is accepted by the mirror input device **107**, the mirror controller **105** updates the vehicle system setting stored in the memory **109** with the accepted input and controls the mirror actuator **108** to adjust the position of the mirror **112**. In addition, and as described in further detail below, the vehicle system setting can be updated with a setting received from the telematics unit **101**, or from another controller of the vehicle **100**.

In alternative embodiments, the vehicle system settings stored in the memories **109** and **111** may include updatable settings for controlling other devices associated with the mirrors **112** and **114**, such as heaters. Moreover, those of ordinary skill in the art will appreciate that the locations, configurations, and quantities for the controllers and actuators of the above described mirror system, or of any of the example vehicle systems described below, can vary without departing from the spirit and scope of this disclosure.

The seat controller **116** is electrically connected to the seat actuator **120**, and controls the seat actuator **120** to adjust a position of the seat **124**. As shown in FIG. **2**, the seat controller **116** is integrated with the seat actuator **120**, which is coupled to the seat **124**. The seat controller **116** controls the seat actuator **120** by transmitting a control signal to control the seat actuator **120**. In the example embodiment of FIG. **2**, the seat actuator **120** includes a motor which drives the seat **124** in a forward or reverse direction along a track so as to adjust a position of the seat **124**. Similar to the mirror systems described above, the control signals sent from the seat controller **116** are based on a vehicle system setting stored in a memory **117**, which may also be integrated with the seat controller **116** and the seat actuator **120**. The seat controller **116** is also electrically connected to a seat input device **118**, which can include buttons for accepting an input from a user to change the position of the seat **124**. For example, when an input is accepted by the seat input device **118**, the seat controller **116** updates a vehicle system setting stored in the memory **117** with the accepted input and controls the seat actuator **120** to adjust the position of the seat **124**. In addition, and as described in further detail below, the vehicle system setting can be updated with a setting received from the telematics unit **101**, or from another controller of the vehicle **100**.

In addition to the vehicle system setting for a position of the seat **124**, the memory **117** may also include other vehicle system settings for adjusting other aspects of the seat **124**, such as increasing or decreasing a lumbar support, a recline angle, a tilt angle, and/or heating of the seat **124**.

The pedal controller **128** is electrically connected to the brake pedal actuator **130** and the accelerator pedal actuator **132**, and controls the brake pedal actuator **130** and the accelerator pedal actuator **132** to adjust positions of the brake pedal **134** and the accelerator pedal **136** so as to move the brake pedal **134** and the accelerator pedal **136** closer to or farther away from a user. As shown in FIG. **2**, the brake pedal actuator **130** is coupled to the brake pedal **134** and the accelerator pedal actuator **132** is coupled to the accelerator pedal **136**. The pedal controller **128** controls the brake pedal actuator **130** and the accelerator pedal actuator **132** by transmitting control signals to control the brake pedal actuator **130** and the accelerator pedal actuator **132**. In the example embodiment of FIG. **2**, the brake pedal actuator **130** and the accelerator pedal actuator **132** each include a motor which adjusts a position of the brake pedal **134** or the accelerator pedal **136**. Similar to the mirror and seat systems described above, the control signals sent from the pedal controller **128** are based on vehicle system settings stored in a memory **129**, which can be integrated with the pedal controller **128**. Unlike the mirror and seat systems described above, there is not a dedicated input device for adjusting the positions of the brake pedal **134** and the accelerator pedal **136**. Instead, in the example of FIG. **2**, an input for adjusting the positions of the brake pedal **134** and the accelerator pedal **136** can be accepted by the user interface **142**. The accepted input is then transmitted to the telematics unit **101**, which in turn, updates the vehicle system settings for the positions of the brake pedal **134** and the accelerator pedal **136** in the memory **129** via the pedal controller **128**. For its part, the pedal controller **128** controls the brake pedal actuator **130** and the accelerator pedal actuator **132** to adjust the positions of the brake pedal **134** and the accelerator pedal **136** based on the changed vehicle system setting stored in the memory **129**.

The steering wheel controller **138** is electrically connected to the steering wheel actuator **140**, and controls the steering wheel actuator **140** to adjust a position of the steering wheel **141** so as to make the steering wheel closer to or farther from a user. As shown in FIG. **2**, the steering wheel actuator **140** is coupled to the steering wheel **141** so as to adjust a position of the steering wheel **141**. The steering wheel controller **138** controls the steering wheel actuator **140** by transmitting a control signal to the steering wheel actuator **140**. In the example of FIG. **2**, the steering wheel actuator **140** includes a motor which adjusts the position of the steering wheel **141**. Similar to the vehicle systems described above, the control signals sent from the steering wheel controller **138** are based on a vehicle system setting stored in a memory **139**, which can be integrated with the steering wheel controller **138**. As with the pedal system described above, there is not a dedicated input device for adjusting the position of the steering wheel **141**. Instead, an input for adjusting the position of the steering wheel **141** can be accepted by the user interface **142**. The accepted input is then transmitted to the telematics unit **101**, which in turn, updates the vehicle system setting for the position of the steering wheel **141** in the memory **139** via the steering wheel controller **138**. For its part, the steering wheel controller **138** controls the steering wheel actuator **140** to adjust the position of the steering wheel **141** based on the changed vehicle system setting stored in the memory **139**. The memory **139** may also store other vehicle system settings in addition to those discussed above. In the example of the steering wheel system, the memory **139** may store a vehicle system setting for adjusting a tilt of the steering wheel **141**.

As will be appreciated by those of ordinary skill in the art, the scope of the present disclosure is not limited to control of the foregoing example vehicle systems. Other embodiments can include various combinations of the vehicle systems of FIG. **2**, in addition to other vehicle systems not shown in FIG. **2**, such as a passenger seat system.

FIG. **3** depicts an example embodiment of the internal architecture of the server **400** shown in FIG. **1**. In addition, FIG. **3** also depicts an input device **40** and a display device **42**, which are both optional. The input device **40** can be, for example, a keyboard, scroll wheel, or pointing device allowing a user of the server **400** to enter information and commands to the server **400**, or to allow the user of the server **400** to manipulate objects displayed on the display device **42**.

The server **400** can be, for example, a cloud server, a file server, or a personal computer. In this regard, the server **400** may be a stand-alone system as shown in FIG. **3**, or may be part of a networked system including multiple storage devices and/or computers. In the embodiment of FIG. **3**, the server

400 includes a central processing unit (CPU) 406 which can be implemented using one or more processors for executing instructions including a microcontroller, a Digital Signal Processor (DSP), an Application Specific Integrated Circuit (ASIC), a Field Programmable Gate Array (FPGA), hard-wired logic, analog circuitry and/or a combination thereof. The CPU 406 interfaces with a server bus 416. Also interfacing with the server bus 416 are a random access memory (RAM) 408, an input interface 412 for interfacing with the input device 40, a display interface 414 for interfacing with the display device 42, a read only memory (ROM) 410, a network interface 404 for interfacing with the network 20, and a hard disk drive (HDD) 402.

The RAM 408 interfaces with the server bus 416 so as to provide information stored in the RAM 408 to the CPU 406 during execution of instructions in software programs, such as the vehicle adjustment module 500, which is stored in the HDD 402. More specifically, the CPU 406 first loads computer-executable process steps from the HDD 402 or another storage device (not shown) into a region of the RAM 408. The CPU 406 can then execute the stored process steps from the RAM 408. Data such as user settings, user profiles, and vehicle profiles stored in the HDD 402 can be stored in the RAM 408 so that the data can be accessed by the CPU 406 during execution of software programs to the extent that such software programs have a need to access and/or modify the data.

As shown in FIG. 3, the HDD 402 stores user settings 502, 504, and 506, which include settings relating to a vehicle or vehicle type, a user, and a position of at least one component of a vehicle or vehicle type. The HDD 402 also stores user profiles 510 and 512, which include attributes and/or preferences of a user or class of users. In addition, the HDD 402 stores vehicle profiles 514 and 516, which include attributes of a vehicle or vehicle type. Each of the foregoing example user settings, user profiles, and vehicle profiles are further described below in reference to FIGS. 4, 5, and 6.

In the example embodiment of FIG. 3, the HDD 402 also stores the vehicle adjustment module 500 which includes computer executable instructions for performing processes for managing the user settings, user profiles, and/or vehicle profiles. Examples of such processes are described below with reference to FIGS. 8 to 10. Those of ordinary skill in the art will appreciate that the present disclosure is not limited to these embodiments and that the disclosed vehicle adjustment module 500 may be used in other environments in which user settings, user profiles, and/or vehicle profiles are managed.

FIG. 4 illustrates example user settings 502, 504, 506, and 508 stored in the HDD 402 of FIG. 3. As shown in FIG. 4, each of the user settings include a user key associated with a user and a vehicle identifier associated with a vehicle or vehicle type. In the example of FIG. 4, the user key of the user settings 502 and 504 ("CB1906X") is associated with the user 10 of FIG. 1 by uniquely identifying the user 10. Similarly, the user key of the user settings 506 and 508 ("WS2005Y") is associated with the user 12 of FIG. 1 by uniquely identifying the user 12. In some embodiments, a user key can be associated with a user by identifying the user as a member of a class of users sharing a common attribute or attributes, such as a class of users who are within a particular range of heights.

The vehicle identifier of the user settings 502 and 506 ("Model A") is associated with the vehicles 100 and 200 of FIG. 1 by identifying a model or type of vehicle for the vehicles 100 and 200. Similarly, the vehicle identifier of the user settings 504 and 508 ("Model B") is associated with the vehicle 300 of FIG. 1 by identifying a model or type of vehicle for the vehicle 300. By having the vehicle identifier associated with a model or type of vehicle, it is ordinarily possible to provide for user settings for different vehicles of the same model (such as the vehicles 100 and 200), while saving storage space in the server 400. However, in some embodiments, a vehicle identifier can be associated with a vehicle by uniquely identifying a particular vehicle, such as by using a unique vehicle identification number (VIN). Such unique identification may be desired due to particular options in the vehicle that can vary among vehicles of the same model, such as aftermarket changes made to a particular vehicle.

In addition to the user keys and vehicle identifiers discussed above, the example user settings of FIG. 4 also include various user settings corresponding to the users 10 and 12 and to the vehicles 100, 200 and 300. In the case of the user settings 502, the user settings correspond to the user 10 and to the vehicles 100 and 200. Such settings include user position settings "Mirror 1" ("8.1"), "Mirror 2" ("6.4"), "Seat" ("7.2"), "Steering Wheel" ("1.6"), "Pedal" ("0.8"), each of which correspond to a different adjustable component of the vehicles 100 and 200. These user position settings can indicate, for example, a specific position within a range of possible positions, or a deviation from a standard position.

Although the user settings 502 and the user settings 506 correspond to the same vehicles (vehicles 100 and 200), the user position settings differ due to differences in preferences and/or attributes of the users 10 and 12. Similarly, even though the user settings 504 and the user settings 508 both correspond to the vehicle 300, the user position settings such as Mirror 1 differ due to differences in preferences and/or attributes of the users 10 and 12.

Some differences between the vehicles 100/200 and 300 become apparent when comparing the settings of user settings 502 and 506 with the settings of user settings 504 and 508. For example, the user settings 502 and 506 include user position settings for "Steering Wheel" and "Pedal", which are not available in the user settings 504 and 508. This difference can be due to the lack of having a steering wheel and pedals that are automatically adjustable in the vehicle 300.

In addition to the user position settings discussed above, the user settings of FIG. 4 also include various other user settings such as entertainment settings, climate settings, and navigation settings. For example, user settings 502 include an entertainment setting for "Preferred Music Genre" ("Classic Rock") which can be used to automatically set particular radio stations in the vehicles 100 and 200 for the user 10. The user settings 502 also include navigation settings "Home Address" ("1060 W. Addison") and "Work Address" ("600 Anton") which can be used to automatically set destinations in a navigation system of the vehicles 100 and 200 for the user 10.

As shown in the example of user settings 504, the user settings include a climate setting "Temperature Setpoint" ("72° F.") which can be used to automatically set a temperature setpoint in the vehicle 300 for the user 10. As with the user position settings discussed above, the additional user settings will also vary depending on the presence or capabilities of vehicle systems available in a particular vehicle or vehicle type.

In one embodiment, user settings can be created at an automobile dealership using a vehicle or vehicle simulator. Alternatively, user settings can be created by the user themself. For example, a user can create user settings with a personal computer or smartphone connected to the Internet, or with a telematics unit in a vehicle, such as the telematics unit 101 in vehicle 100. User settings can also be generated by the server 400 for different vehicles based on a user profile

and a vehicle profile, as will be described more fully with reference to the process of FIG. **9**.

FIG. **5** illustrates example user profiles **510** and **512** stored in the HDD **402** of FIG. **3**. As shown in FIG. **5**, each of the user profiles includes a user key associated with a user. The user key of the user profile **510** ("CB1906X") is associated with the user **10** of FIG. **1** by uniquely identifying the user **10**. Similarly, the user key of the user profile **512** ("WS2005Y") is associated with the user **12** of FIG. **1** by uniquely identifying the user **12**. As noted above with respect to FIG. **4**, a user key can alternatively be associated with a user by identifying the user as a member of a class of users sharing a common attribute or attributes.

The user profiles **510** and **512** include several physical attributes of the users **10** and **12**, respectively, which can be used to generate new user settings for vehicles or vehicle types that the users have not driven before. For example, each of the user profiles **510** and **512** include a user eye point, user hip point, and arm length for the users **10** and **12**, respectively. These example user attributes can, for example, represent a measurement relating to the location of the user's eyes, hips, and hands. Alternatively, these user attributes can represent a deviation from an average location for an eye, hip, or hand. Such average locations can be obtained from guidelines established by standards groups, such as the Society for Automotive Engineers (SAE).

In addition to physical attributes of a user, the user profiles **510** and **512** also include user preferences and/or user settings, such as "Recline Value", "Lumbar Value", "Mirror 1 Value", "Mirror 2 Value", "Preferred Music Genre", "Default Volume Level", "Scheduled Location", "Background Image", "Language", "Units", "Location 1", "Location 2", "Mobile Device 1", and "Temperature Setpoint". In one embodiment, user preferences, such as "Recline Value", "Lumbar Value", "Mirror 1 Value", "Mirror 2 Value", and "Default Volume Level" represent settings made by the user while driving a vehicle. In particular, in the embodiment of FIG. **5**, these user preferences represent settings made by the user that have been standardized by the server **400** so as to apply to a standard vehicle. As with the physical attributes described above, the user preferences can also be used to generate new user settings for vehicles or vehicle types not driven before by the user.

The user profiles **510** and **512** also include various user settings that can also form part of a user setting, such as some of the user settings of FIG. **4**. Settings such as "Preferred Music Genre", "Scheduled Location", "Background Image", "Language", "Units", "Location 1", "Location 2", "Mobile Device 1", "Mobile Device 2", and "Temperature Setpoint" can be directly transferred to a user setting when generating a new user setting for a vehicle. As with the user settings of FIG. **4**, the user profiles of FIG. **5** can be created, for example, at an automobile dealership or by a user.

FIG. **6** illustrates example vehicle profiles **514** and **516** contained in the HDD **402** of FIG. **3**, which can be used to generate new user settings for vehicles that a user has not yet driven. The vehicle profile **514** corresponds to the vehicles **100** and **200** in FIG. **1**, while the vehicle profile **516** corresponds to the vehicle **300** in FIG. **1**. More specifically, the vehicle profile **514** corresponds to a model or vehicle type for the vehicles **100** and **200**, while the vehicle profile **516** corresponds to a model or vehicle type for the vehicle **300**. In this regard, the vehicle profiles **514** and **516** include a vehicle identifier, "Model A" or "Model B". As with the vehicle identifiers of the user settings of FIG. **4**, the vehicle identifiers of the vehicle profiles **514** and **516** are associated with the vehicles of FIG. **1**. For example, the vehicle identifier of vehicle profile **514** ("Model A") is associated with vehicles **100** and **200**. In alternative embodiments, a vehicle identifier can be associated with a vehicle by uniquely identifying a particular vehicle, such as by using a vehicle identification number (VIN).

In addition to vehicle identifiers, the example vehicle profiles of FIG. **6** also include attributes of the vehicles associated with the respective vehicle identifiers. Such attributes can concern the geometries of the associated vehicles and the availability/capabilities of various vehicle systems. In the example of the vehicle profile **514**, attributes of the vehicles **100** and **200** include "Distance Ratio **1**", which can pertain to a specific measurement of the vehicles **100** and **200**. The vehicle profile **514** also includes the vehicle attribute "Deviation 1", which can pertain to a deviation distance from a standard distance used for a standard vehicle. The vehicle attribute of "Music Genre" indicates whether an entertainment system of the vehicles **100** and **200** support a capability of automatically creating radio presets based on a user's preferred music genre. Similarly, the vehicle attribute of "Climate" can indicate whether a climate system of the vehicles **100** and **200** support a capability of automatically setting a temperature setpoint to a user's preferred temperature setpoint. The vehicle attribute of "Navigation" can indicate the availability of a navigation system in vehicles **100** and **200**.

FIG. **7**A depicts an example process performed by the telematics unit **101** of the vehicle **100** in FIG. **2**. The process of FIG. **7**A provides for the updating of vehicle system settings in response to the reception of user settings from the server **400**. In block **602**, a vehicle on signal is received indicating that the vehicle **100** has been activated. Such activation can, for example, result from a door opening after the vehicle **100** has been off or can result from an engine of the vehicle **100** being started.

In block **604**, the telematics unit **101** identifies a user, such as the user **10** or the user **12**, with a user key associated with the user. In the example embodiment of FIG. **7**A, the telematics unit **101** can identify the user in several different ways. For example, the user can be identified using the biometric sensor **144** and then matching biometric information accepted by the biometric sensor **144** with a user key stored in the memory **103** of the telematics unit **101**. Alternatively, the telematics unit **101** can identify the user by using a mobile device, such as the mobile devices **30** or **32** in FIG. **1**, and then matches identification information of the mobile device with a user key stored in the memory **103**. The mobile device may also directly provide a user key to the telematics unit **101**. Such an arrangement can allow for the user key to be provided to a vehicle the user has not driven before, such as to a rental car. By using a mobile device, the telematics unit **101** may identify a user as they activate the vehicle **100** with a key fob while approaching the vehicle **100**. Alternatively, the telematics unit **101** can request if the user would like to download user settings via the user interface **142** once inside the vehicle **100**. The user can then enter a personal identification number (PIN) or their user key into the user interface **142** so as to identify the user with the user key.

In addition to identifying a user who is a driver of the vehicle **100**, the telematics unit **101** may also identify another user who is a passenger in the vehicle **100** using the same methods described above. In the example where the telematics unit **101** identifies multiple users by using a mobile device, the telematics unit **101** may also detect relative locations of users inside the vehicle **100** so as to determine which user is the driver and which user is the passenger. Alternatively, the telematics unit **101** can prompt the users to confirm which user is the driver via the user interface **142**. A user who is a

passenger may also have user settings available for download from the server **400** that are specific to being a passenger, such as a user setting for a passenger seat or a passenger climate setting in a vehicle equipped with multiple zones of climate control.

After identifying the user with the user key in block **604**, the telematics unit **101** transmits the user key to the server **400** via the network **20** in block **606**. In some embodiments, the telematics unit **101** can transmit a user PIN, or email address, or other identifier that can be associated with the user key by the server **400**. In such embodiments, the server **400** would associate the user's identifier with the user key.

In block **610**, the telematics unit waits to receive a user setting, such as the user settings of FIG. **4**, from the server **400** via the network **20**. If the user setting is not received from the server after a timeout period has been exceeded, the telematics unit **101** in block **610** displays an error message on the user interface **142** indicating that a user setting has not been received. The process then ends in block **620**.

On the other hand, if a user setting is received in block **608**, the process proceeds to optional blocks **612** and **614**. In block **612**, the telematics unit **101** displays a personal greeting on the user interface **142**. An example of such a personal greeting could be "Good morning John." The telematics unit **101** also prompts the user in block **612** to confirm whether the user wants to update the vehicle system settings with their user settings. In some embodiments, block **612** can be omitted or modified so as to only include a request to confirm whether to update the vehicle system settings or to only include a personal greeting. In addition, in other embodiments, the telematics unit **101** can provide a personal greeting or confirm whether the user would like to update the vehicle system settings in an audio format.

In block **614**, the telematics unit **101** determines whether the user has confirmed that they would like to update the vehicle system settings with their user settings received from the server **400**. If the confirmation is not received within a timeout period or the user indicates that they do not want to update the vehicle system settings, the telematics unit **101** displays a cancellation message on the user interface **142** in block **616**, and the process ends in block **620**.

If a confirmation is received from the user in block **614**, the telematics unit **101** updates the vehicle system settings stored in vehicle system controllers, such as seat controller **116**, with the user settings received from the server **400**. More specifically, the telematics unit **101** transmits certain user settings to various vehicle system controllers so as to update their vehicle system settings with the user settings. In addition, the telematics unit **101** can also update certain vehicle system settings stored in the memory **103** of the telematics unit, such as a preferred music genre of the user. The process then proceeds to a sub-process "A" set out in FIG. **7**B.

In the example sub-process of FIG. **7**B, a user setting transmitted from the telematics unit **101** in block **618** is received by a vehicle system controller, such as the seat controller **116**, in block **638**. In block **640**, the vehicle system controller determines whether a current vehicle system setting stored in a memory, such as the memory **117**, corresponds with the user setting received in block **638**. If so, the process proceeds to block **646**. On the other hand, if the vehicle system setting does not correspond with the user setting, the vehicle system controller controls an actuator in block **642** to adjust a position of a component based on the user setting. In this regard, the user setting may represent a specific position to which the actuator moves the component. The process then proceeds to block **644** where the vehicle system controller stores the user setting as the vehicle system setting in a memory, such as the memory **117**.

In block **646**, the vehicle system controller determines whether an input has been received from an input device, such as the seat input device **118**. If not, the vehicle system controller in block **646** checks whether a vehicle off signal has been received indicating that the vehicle **100** has been turned off. Such a vehicle off signal may result, for example, from an ignition key turning the vehicle **100** off or from a driver's door opening after the vehicle **100** has been turned off. If the vehicle system controller determines that a vehicle off signal has been received in block **654**, the process of FIGS. **7**A and **7**B ends in block **636**. If not, the process returns to block **646**.

If the vehicle system controller determines that an input has been accepted in block **646**, the vehicle system controller controls an actuator to adjust a position of a component based on the accepted input. In block **650**, the vehicle system controller changes the vehicle system setting stored in a memory in accordance with the accepted input. In block **652**, the vehicle system controller transmits the changed vehicle system setting to the telematics unit **101** for transmission to the server **400**. The telematics unit **101** may either transmit the changed vehicle setting to the server immediately, or the telematics unit may store the changed vehicle system setting in the memory **103** to wait before transmitting the changed vehicle system setting. In this regard, the telematics unit **101** can be configured to wait before transmitting the changed vehicle system setting until the modem **104** of the telematics unit connects to a particular network, such as a wi-fi network at the user's home.

After transmitting the changed vehicle system settings to the telematics unit **101**, the vehicle system controller checks if a vehicle off signal has been received in block **654**. If so, the process ends in block **636**. If not, the process returns to block **646** described above.

FIG. **8** depicts one example process performed by the server **400** of FIG. **3** for transmitting user settings to a remote vehicle, such as vehicles **100**, **200** or **300**. In block **702**, the server **400** receives a user key associated with a user of a vehicle and a vehicle identifier associated with a vehicle or vehicle type. More specifically, the network interface **404** of the server **400** receives the user key and the vehicle identifier via the network **20**. In block **704**, the CPU **406** of the server **400** matches the user key and the vehicle identifier with at least one user setting stored in the HDD **402** relating to the user key, the vehicle identifier, and at least one position of a vehicle component. The network interface **404** transmits the at least one user setting to the vehicle in block **706**, and the process ends in block **708**.

FIG. **9** depicts a different example process performed by the server **400** of FIG. **3** that allows for dynamically generating new user settings on the fly. By generating new user settings, it is ordinarily possible to provide user settings for vehicles or vehicle types the user has not driven before.

In block **714**, the server **400** receives a user key associated with a user of a vehicle and a vehicle identifier associated with a vehicle or vehicle type. More specifically, the network interface **404** of the server **400** receives the user key and the vehicle identifier via the network **20**. In block **716**, the CPU **406** of the server **400** matches the user key with a user profile stored in the HDD **402**, such as the user profiles of FIG. **5**. In block **718**, the CPU **406** matches the vehicle identifier with a vehicle profile stored in the HDD **402**, such as the vehicle profiles of FIG. **6**. In block **720**, the CPU **406** generates at least one user setting relating to the user key, the vehicle identifier, and at least one position of a vehicle component. The at least one user setting is generated in block **720** based

on the matched user profile and the matched vehicle profile. For example, generating a new user setting can involve using a user attribute in the user profile, such as a hip point, in combination with a vehicle attribute in the vehicle profile, such as a total distance of a track for a seat, to calculate a user setting for a position of a component, such as the seat **124**. As will be appreciated by those of ordinary skill in the art, numerous other combinations of user attributes and/or preferences can be used with various vehicle attributes to generate a user setting for various adjustable components of a vehicle. In block **722**, the network interface **404** transmits the at least one user setting to the vehicle via the network **20**. The process then ends in block **724**.

FIG. **10** depicts an example process performed by the server **400** for updating the user settings and the user profiles stored in the HDD **402** based on vehicle system settings changed by a user. This process ordinarily allows the user settings to reflect recent preference changes of the user. The process of FIG. **10** begins in block **726** when the network interface **404** of the server **400** receives a user key, a vehicle identifier, and a changed vehicle system setting via the network **20**. The changed vehicle system setting is based on an input accepted by a user, as described above with reference to block **652** of FIG. **7**B.

With reference to FIG. **10**, in block **728**, the CPU **406** of the server **400** updates at least one user setting stored in the HDD **402** based on the changed vehicle system setting. For example, the vehicle system setting can be a new mirror position selected by the user. In such an example, a user setting relating to a mirror position for a vehicle associated with the vehicle identifier can be updated by setting the user setting as the changed vehicle system setting. In block **730**, the CPU **406** modifies a user profile, such as the user profiles of FIG. **5**, based on the changed vehicle system setting. For example, in the case where the changed vehicle system setting relates to a recline position of a seat in a vehicle, the CPU **406** can modify a user preference such as "Recline Value" in a user profile. The process then ends in block **732**. In some embodiments, block **728** or block **730** can be omitted.

Those of ordinary skill will appreciate that the various illustrative logical blocks and process steps described in connection with the examples disclosed herein may be implemented as electronic hardware, computer software, or combinations of both. Whether such functionality is implemented as hardware or software depends upon the particular application and design constraints imposed on the overall system. Ordinarily skilled artisans may implement the described functionality in varying ways for each particular application, but such implementation decisions should not be interpreted as causing a departure from the spirit and scope of the claims.

The steps of a method or algorithm described in connection with the examples disclosed herein may be embodied directly in hardware, in a software module executed by a processor, or in a combination of the two. A software module may reside in RAM memory, flash memory, ROM memory, EPROM memory, EEPROM memory, registers, hard disk, a removable disk, a CD-ROM, or any other form of storage medium known in the art. An exemplary storage medium is coupled to the processor such that the processor can read information from, and write information to, the storage medium. In the alternative, the storage medium may be integral to the processor. The processor and the storage medium may reside in an Application Specific Integrated Circuit (ASIC).

The foregoing description of the disclosed example embodiments is provided to enable any person of ordinary skill in the art to make or use the claimed invention. Various modifications to these examples will be readily apparent to those of ordinary skill in the art, and the principles disclosed herein may be applied to other examples without departing from the spirit or scope of the claims. The described embodiments are to be considered in all respects only as illustrative and not restrictive and the scope of the invention is, therefore, indicated by the following claims rather than by the foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

What is claimed is:

1. A first vehicle comprising:

at least one component having an adjustable position;

an actuator coupled to the at least one component to adjust the position of the at least one component;

a memory configured to store a vehicle setting for the first vehicle that represents the position of the at least one component;

a telematics unit configured to:

receive at least one user setting from a device remote from the first vehicle, wherein the at least one user setting relates to:

user identification data including the identification of a user of the first vehicle,

vehicle profile data including a distance measurement that corresponds to a deviation of a distance between at least one of the first vehicle or a second vehicle and a standard vehicle, and

the stored position of the at least one component on the first vehicle or a related component on the second vehicle; and

update the vehicle setting of the first vehicle for the at least one component of the first vehicle with the at least one user setting; and

a controller connected to the actuator and configured to control the actuator to adjust the position of the at least one component of the first vehicle based on the at least one user setting when the vehicle setting of the first vehicle does not correspond with the at least one user setting.

2. The first vehicle of claim **1**, wherein the at least one component of the first vehicle includes a seat, a mirror, a steering wheel, or a pedal.

3. The first vehicle of claim **1**, wherein the telematics unit is further configured to transmit user identification data to the remote device via a mobile device of the user, and wherein the at least one user setting is received by the telematics unit from the remote device via the mobile device.

4. The first vehicle of claim **1**, wherein the telematics unit is further configured to identify the user by using a mobile phone, a fob, an ignition key, a smart card, a memory card, a biometric sensor of the first vehicle, or a user interface of the first vehicle.

5. The first vehicle of claim **1**, wherein the telematics unit is further configured to receive an entertainment setting, a climate setting, or a navigation setting from the remote server.

6. The first vehicle of claim **1**, further comprising:

an input device connected to the controller for accepting an input from the user to change the position of the at least one component on the first vehicle; and

wherein the controller is further configured to:

change the vehicle setting of the first vehicle in accordance with the accepted input; and

transmit the changed vehicle setting of the first vehicle to the telematics unit; and

wherein the telematics unit is further configured to transmit the changed vehicle system setting of the first vehicle to

the remote device so as to update the at least one user setting stored in a memory of the remote device.

7. A method for adjusting a position of at least one component of a first vehicle for a user of the first vehicle, the method comprising:

receiving at least one user setting from a device remote from the first vehicle, wherein the at least one user setting relates to:

user identification data including the identification of a user of the first vehicle,

vehicle profile data including a distance measurement that corresponds to a deviation of a distance between at least one of the first vehicle or a second vehicle and a standard vehicle, and

a stored position of the at least one component on the first vehicle or a related component on the second vehicle; and

updating a vehicle setting of the first vehicle stored in a memory with the at least one user setting so as to adjust the position of the at least one component on the first vehicle based on the at least one user setting when the vehicle setting of the first vehicle does not correspond with the at least one user setting.

8. The method of claim 7, wherein the at least one component of the first vehicle includes a seat, a mirror, a steering wheel, or a pedal.

9. The method of claim 7, wherein the user identification data is transmitted to the remote device via a mobile device of the user and the at least one user setting is received from the remote device via the mobile device.

10. The method of claim 7, further comprising identifying the user is by using a mobile phone, a fob, an ignition key, a smart card, a memory card, a biometric sensor of the first vehicle, or a user interface of the first vehicle.

11. The method of claim 7, wherein receiving the at least one user setting from the remote server further comprises receiving an entertainment setting, a climate setting, or a navigation setting.

12. The method of claim 7, further comprising:

accepting an input from the user to adjust the position of the at least one component;

changing the vehicle setting of the first vehicle in accordance with the accepted input; and

transmitting the changed vehicle setting of the first vehicle to the remote device so as to update the at least one user setting in a memory of the remote device.

13. A method for adjusting a position of at least one component of a first vehicle for a user of the first vehicle, the method comprising:

receiving from the first vehicle user identification data associated with the user;

matching the user identification data with at least one user setting stored in a memory, the at least one user setting relating to vehicle profile data including a distance measurement that corresponds to a deviation of a distance between at least one of the first vehicle or a second vehicle and a standard vehicle, and a stored position of the at least one component on the first vehicle or a related component on the second vehicle; and

transmitting the at least one user setting to the first vehicle so as to adjust the position of the at least one component on the first vehicle based on the at least one user setting when a vehicle setting of the first vehicle for the position of the at least one component does not correspond with the at least one user setting.

14. The method of claim 13, wherein the at least one component of the first vehicle includes a seat, a mirror, a steering wheel, or a pedal.

15. The method of claim 13, wherein transmitting the at least one user setting to the first vehicle further comprises transmitting an entertainment setting, a climate setting, or a navigation setting to the first vehicle.

16. The method of claim 13, further comprising:

receiving a changed vehicle setting from the first vehicle, wherein the changed vehicle setting from the first vehicle is based on an input accepted from the user; and

updating the at least one user setting with the changed vehicle setting of the first vehicle in the memory.

17. A method for adjusting a position of at least one component of a first vehicle for a user of the first vehicle based on a position preferred by the user of a component of a second vehicle, the method comprising:

receiving user component position preference data from a device remote from the first vehicle which relates to an identification of the user and a distance measurement that corresponds to a deviation of a distance between the second vehicle and a standard vehicle; and

applying the component position preference data to the first vehicle such that the seat, the mirror, the steering wheel or the pedal is in a similar position relative to the user in the first vehicle as the component was in the second vehicle.

18. The method of claim 17, further comprising:

identifying the user; and

transmitting user identification data including the identification of the user to the device remote from the first vehicle.

19. The method of claim 18, wherein the user identification data is determined by a mobile phone, a fob, an ignition key, a smart card, a memory card, a biometric sensor of the first vehicle or a user interface of the first vehicle.

20. The method of claim 18, wherein transmitting user identification data includes transmitting the data via a mobile device of the user, and wherein the user component position preference data is received via a mobile device.

21. The method of claim 17, further comprising receiving an entertainment setting, a climate setting or a navigation setting from the remote device.

22. The method of claim 17, wherein the remote device is a server, a mobile phone, a portable computer or any other device comprising a processor, a memory, and a communication module.

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