

**CONTROL OF DEVICE FEATURES BASED ON VEHICLE STATE
CROSS REFERENCE TO RELATED APPLICATION**

[0001] The present application claims the benefit of and priority, under 35 U.S.C. § 119(e), to U.S. Provisional Application Serial No. 61/460,509, filed November 16, 2011, entitled “COMPLETE VEHICLE ECOSYSTEM.” The aforementioned document is incorporated herein by this reference in its entirety for all that it teaches and for all purposes.

BACKGROUND

[0002] Whether using private, commercial, or public transport, the movement of people and/or cargo has become a major industry. In today’s interconnected world, daily travel is essential to engaging in commerce. Commuting to and from work can account for a large portion of a traveler’s day. As a result, vehicle manufacturers have begun to focus on making this commute, and other journeys, more enjoyable.

[0003] Currently, vehicle manufacturers attempt to entice travelers to use a specific conveyance based on any number of features. Most of these features focus on vehicle safety, or efficiency. From the addition of safety-restraints, air-bags, and warning systems to more efficient engines, motors, and designs, the vehicle industry has worked to appease the supposed needs of the traveler. Recently, however, vehicle manufactures have shifted their focus to user and passenger comfort as a primary concern. Making an individual more comfortable while traveling instills confidence and pleasure in using a given vehicle, increasing an individual’s preference for a given manufacturer and/or vehicle type.

[0004] One way to instill comfort in a vehicle is to create an environment within the vehicle similar to that of an individual’s home or place of comfort. Integrating features in a vehicle that are associated with comfort found in an individual’s home can ease a traveler’s transition from home to vehicle. Several manufacturers have added comfort features in vehicles such as the following: leather seats, adaptive and/or personal climate control systems, music and media players, ergonomic controls, and in some cases Internet connectivity. However, because these manufacturers have added features to a conveyance, they have built comfort around a vehicle and failed to build a vehicle around comfort.

SUMMARY

[0005] There is a need for a vehicle ecosystem that can integrate both physical and mental comforts while seamlessly operating with current electronic devices to result in an intuitive and immersive user experience. These and other needs are addressed by the various aspects,

embodiments, and/or configurations of the present disclosure. Also, while the disclosure is presented in terms of exemplary embodiments, it should be appreciated that individual aspects of the disclosure can be separately claimed.

[0006] A method of controlling access to one or more features of a communication device associated with a vehicle is described. In some embodiments, the method comprises: establishing a connection between the communication device and a feature control module, wherein the feature control module is configured to receive input from at least one of a vehicle sensor and a non-vehicle sensor; determining a location of the communication device; and controlling, via the feature control module and based at least partially on the location of the communication device, user access to one or more features of the communication device.

[0007] The present disclosure can provide a number of advantages depending on the particular aspect, embodiment, and/or configuration. Currently, drivers and other vehicle operators can operate their vehicles while texting, talking, surfing the Internet, streaming video, and generally using their mobile phones and/or other connected devices. Using these devices while operating a vehicle may not only be considered unsafe, but may also contradict local, state, federal, and other laws. Moreover, the use of devices, especially communication devices, while driving causes greater distraction and is a leading cause of accidents among teenage drivers.

[0008] Among other things, the present disclosure is directed to an intelligent system that is capable of recognizing a user and device and determining to allow or deny the user access to device features. In particular, the system may recognize one or more characteristics associated with a user and/or device and limit access to device features at least partially based on the one or more characteristics. These characteristics may include but are not limited to location of the user and/or device, user profile settings, user preferences, registration status of the device, device settings, programmed conditions, and the like. For example, a user may be operating a device in the passenger seat of an automobile. Moreover, the user may have established a connection between the device and the vehicle (e.g., via Bluetooth, direct electrical connection, wireless, radio frequency (RF), infrared (IR), etc.). In this example, the vehicle feature control system may utilize one or more of the vehicle/device sensors to determine the location of the device user. These sensors may include cameras, weight sensors, IR detectors, temperature sensors, GPS, triangulation and/or position sensors, and combinations thereof. Many vehicles, especially cars, utilize sensors of this type to activate and/or deactivate airbag and/or safety restraint system

components. Upon detecting that the user and/or device in this case is located in a passenger seat, a feature control module may determine that feature access should not be controlled. On the other hand, if the user was seated in a vehicle operation seat (e.g., driver's seat) the feature control module may determine to limit access to one or more features of the device.

[0009] It is anticipated that the feature control module may refer to other factors when determining to allow or deny a user access to a device's features. Among these other factors are jurisdictional and/or federal laws, contractual rules/obligations, programmed conditions, vehicle state, emergency contingencies, and combinations thereof. Contractual rules/obligations may include but are not limited to contract limitations associated with employment contracts, insurance contracts, general agreements, governmental contracts, and the like. These rules and/or laws may be used in determining feature control of a device. For instance, a vehicle may be detected to be "in motion" by the feature control module and various vehicle/device sensors. Moreover, the feature control module may be configured to communicate to a database to determine laws governing the use of communication devices in the current geographical location of the vehicle. For the sake of example, a local law may prohibit the use of communication devices by a driver of a vehicle while that vehicle is in motion. Based on the vehicle state (i.e., in motion), the location of the user (i.e., driver's seat), and the local law (i.e., prohibiting use of devices by drivers of a moving vehicle) the feature control module may determine to deny access to device features. In some embodiments, the feature control module may communicate with the device to deactivate the features of the device. This deactivation may be coupled with a presented warning in the form of a visual and/or audible alert on the device and/or vehicle dash display. Additionally, it is anticipated that the feature control module may reactivate these deactivated features once the vehicle is in a state of rest and/or parked.

[0010] In some embodiments, the feature control module may itself receive from a satellite positioning system receiver in the vehicle or from a satellite positioning system receiver in the communication device satellite location information alone or in conjunction with vehicle-related state, configuration, and/or operation information (speed, parking sensors, etc.) to determine the current vehicle state, configuration, and/or operation. Exemplary on-board vehicle sensors that may be accessed by the feature control module include a wheel state sensor to sense one or more of vehicle speed, acceleration, deceleration, wheel rotation, wheel speed (e.g., wheel revolutions-per-minute), wheel slip, and the like, a power source energy output sensor to sense a power

output of an on-board power source (e.g., an engine or energy storage device) by measuring one or more of current engine speed (e.g., revolutions-per-minute), energy input and/or output (e.g., voltage, current, fuel consumption, and torque), and the like, a switch state sensor to determine a current activation or deactivation state of a power source activation/deactivation switch, a transmission setting sensor to determine a current setting of the vehicle transmission (e.g., gear selection or setting), a gear controller sensor to determine a current setting of a gear controller, a power controller sensor to determine a current setting of a power controller (e.g., throttle), a brake sensor to determine a current state (braking or non-braking) of a vehicle braking system, a seating system sensor to determine a seat setting and current weight of seated occupant, if any, in a selected seat of the vehicle seating system, a safety system state sensors to determine a current state of a vehicular safety system (e.g., air bag setting (deployed or undeployed) and/or seat belt setting (engaged or not engaged)), a light setting sensor (e.g., current headlight, emergency light, brake light, parking light, fog light, interior or passenger compartment light, and/or tail light state (on or off)), a brake control (e.g., pedal) setting sensor, an accelerator pedal setting sensor, a clutch pedal setting sensor, an emergency brake pedal setting sensor, a door setting (e.g., open, closed, locked or unlocked) sensor, a window setting (open or closed) sensor, and other sensors known to those of skill in the vehicle art. When, for example, a vehicle is in motion, the feature control module can disallow/deactivate use of texting, video streaming, and other applications. Once the vehicle is determined to be in a “parked” condition (e.g., in “Park”), or otherwise motionless, the applications may be allowed and activated. As previously stated, these features may be controlled in accordance with local/state/federal laws as well as administrative agency laws, insurance contract, governmental contracts, general agreements, and/or employment contracts.

[0011] In another embodiment, communication modes, such as texting, tweeting, email, and the like may be enabled or disabled based on vehicle location. Vehicle location may be mapped against applicable laws of a governmental entity, such as a city, municipality, county, province, state, country, and the like. Alternatively, capabilities of the device may be enabled or disabled based on contract requirements, employer rules or policies, etc.

[0012] In yet another embodiment, a feature control module may be programmed to control a specific device, or group of devices, based on settings associated with a user. During a registration process between a device and a vehicle, via the feature control module, the

registering party may be prompted to input specific information via a control panel, the device, and/or a dash display interface. The registration of devices may be password-protected and even associated with a master key or pass. In some embodiments, the registration process will grant the feature control module permission to control one or more features of the device. In other embodiments, the feature control module may be configured to control one or more communication features of the device regardless of registration permission. This unauthorized control of device communication features may be achieved by affecting the transmission of signals sent to and/or from the device.

[0013] To better illustrate the concept of controlling device features based on settings, the example of a teenage driver is provided. In this example, a teenage driver may own a particular communication device. This device may have a unique media access control (MAC) address or other unique hardware/software identifier. In one embodiment, the device may be registered with the feature control module by an authorized user (e.g., a parent, guardian, or governmental entity). During the registration process, the authorized user may configure the settings associated with the device and teenage driver to be especially strict. In other words, the authorized user may determine to disable all communication functions of the device while the vehicle is in motion. On the other hand, the authorized user may determine to allow telephonic connections while in motion but disable other features such as texting, emailing, and surfing the Internet (e.g., disable the browser capability). Additionally or alternatively, an authorized user may determine that communication devices inside a vehicle (associated with any person, and even in any area), shall be controlled by the feature control module. In this instance, the feature control module may prevent the exchange of communication signals to and from one or more device inside a vehicle.

[0014] In some embodiments, the feature control module may determine to control one or more features based on vehicle state and/or condition. In one embodiment, access to features of a device may be overridden. This overriding control may be beneficial in the case of an emergency. For instance, the feature control module may determine that a vehicle and/or one or more users are in a state of emergency. If a vehicle has been involved in a collision or accident, one or more sensors associated with the vehicle are configured to report the incident. In accordance with the present disclosure, the feature control module may receive input from the multiple sensors to determine appropriate device feature control. For example, a car may be

involved in a roll-over accident. Although the wheels of the car may still be moving, and the vehicle is not in “park,” the presence of the accident may be reported by the sensors and therefore functionality of device features may be returned to the one or more devices associated with the vehicle. Alternatively, a user in a vehicle may have suffered a seizure, or illness, that causes the user to shake uncontrollably. This movement and/or condition may be detected by the device associated with that user and as such signal an emergency event associated with the user. The feature control module may receive this input and return device feature functionality for a period of time.

[0015] The phrases “at least one”, “one or more”, and “and/or” are open-ended expressions that are both conjunctive and disjunctive in operation. For example, each of the expressions “at least one of A, B and C”, “at least one of A, B, or C”, “one or more of A, B, and C”, “one or more of A, B, or C” and “A, B, and/or C” means A alone, B alone, C alone, A and B together, A and C together, B and C together, or A, B and C together.

[0016] The term “a” or “an” entity refers to one or more of that entity. As such, the terms “a” (or “an”), “one or more” and “at least one” can be used interchangeably herein. It is also to be noted that the terms “comprising”, “including”, and “having” can be used interchangeably.

[0017] The term “automatic” and variations thereof, as used herein, refers to any process or operation done without material human input when the process or operation is performed. However, a process or operation can be automatic, even though performance of the process or operation uses material or immaterial human input, if the input is received before performance of the process or operation. Human input is deemed to be material if such input influences how the process or operation will be performed. Human input that consents to the performance of the process or operation is not deemed to be “material.”

[0018] The term “computer-readable medium” as used herein refers to any tangible storage and/or transmission medium that participate in providing instructions to a processor for execution. Such a medium may take many forms, including but not limited to, non-volatile media, volatile media, and transmission media. Non-volatile media includes, for example, NVRAM, or magnetic or optical disks. Volatile media includes dynamic memory, such as main memory. Common forms of computer-readable media include, for example, a floppy disk, a flexible disk, hard disk, magnetic tape, or any other magnetic medium, magneto-optical medium, a CD-ROM, any other optical medium, punch cards, paper tape, any other physical medium with

patterns of holes, a RAM, a PROM, and EPROM, a FLASH-EPROM, a solid state medium like a memory card, any other memory chip or cartridge, a carrier wave as described hereinafter, or any other medium from which a computer can read. A digital file attachment to e-mail or other self-contained information archive or set of archives is considered a distribution medium equivalent to a tangible storage medium. When the computer-readable media is configured as a database, it is to be understood that the database may be any type of database, such as relational, hierarchical, object-oriented, and/or the like. Accordingly, the disclosure is considered to include a tangible storage medium or distribution medium and prior art-recognized equivalents and successor media, in which the software implementations of the present disclosure are stored.

[0019] The term “module” as used herein refers to any known or later developed hardware, software, firmware, artificial intelligence, fuzzy logic, or combination of hardware and software that is capable of performing the functionality associated with that element.

[0020]

[0021] The term “satellite positioning system receiver” refers to a wireless receiver or transceiver to receive and/or send location signals from and/or to a satellite positioning system, such as the Global Positioning System (“GPS”) (US), GLONASS (Russia), Galileo positioning system (EU), Compass navigation system (China), and Regional Navigational Satellite System (India).

[0022] The terms “determine,” “calculate,” and “compute,” and variations thereof, as used herein, are used interchangeably and include any type of methodology, process, mathematical operation or technique.

[0023] It shall be understood that the term “means” as used herein shall be given its broadest possible interpretation in accordance with 35 U.S.C., Section 112, Paragraph 6. Accordingly, a claim incorporating the term “means” shall cover all structures, materials, or acts set forth herein, and all of the equivalents thereof. Further, the structures, materials or acts and the equivalents thereof shall include all those described in the summary of the invention, brief description of the drawings, detailed description, abstract, and claims themselves.

[0024] The term “vehicle” as used herein includes any conveyance, or model of a conveyance, where the conveyance was originally designed for the purpose of moving one or more tangible objects, such as people, animals, cargo, and the like. The term “vehicle” does not require that a conveyance moves or is capable of movement. Typical vehicles may include but are in no way

limited to cars, trucks, motorcycles, busses, automobiles, trains, railed conveyances, boats, ships, marine conveyances, submarine conveyances, airplanes, space craft, flying machines, human-powered conveyances, and the like.

[0025] The terms “dash” and “dashboard” and variations thereof, as used herein, are used interchangeably and include any panel and/or area of a vehicle disposed adjacent to an operator, user, and/or passenger. Typical dashboards may include but are not limited to one or more control panel, instrument housing, head unit, indicator, gauge, meter, light, audio equipment, computer, screen, display, HUD unit, and graphical user interface.

[0026] The terms “communication device,” “smartphone,” and “mobile device,” and variations thereof, as used herein, are used interchangeably and include any type of device capable of communicating with one or more of another device and/or across a communications network, via a communications protocol, and the like. Exemplary communication devices may include but are not limited to smartphones, handheld computers, laptops, netbooks, notebook computers, subnotebooks, tablet computers, scanners, portable gaming devices, phones, pagers, GPS modules, portable music players, and other Internet-enabled and/or network-connected devices.

[0027] The preceding is a simplified summary of the disclosure to provide an understanding of some aspects of the disclosure. This summary is neither an extensive nor exhaustive overview of the disclosure and its various aspects, embodiments, and/or configurations. It is intended neither to identify key or critical elements of the disclosure nor to delineate the scope of the disclosure but to present selected concepts of the disclosure in a simplified form as an introduction to the more detailed description presented below. As will be appreciated, other aspects, embodiments, and/or configurations of the disclosure are possible utilizing, alone or in combination, one or more of the features set forth above or described in detail below.

BRIEF DESCRIPTION OF THE DRAWINGS

[0028] Fig. 1 is a block diagram depicting a feature control system in accordance with one embodiment of the present disclosure;

[0029] Fig. 2 is a block diagram depicting areas and zones associated with a vehicle in accordance with one embodiment of the present disclosure;

[0030] Fig. 3 is a flow diagram depicting a first feature control system method in accordance with embodiments of the present disclosure;

[0031] Fig. 4 is a flow diagram depicting a second feature control system method in accordance with embodiments of the present disclosure;

[0032] Fig. 5 is a flow diagram depicting a third feature control system method in accordance with embodiments of the present disclosure; and

[0033] Fig. 6 is a flow diagram depicting a fourth feature control system method in accordance with embodiments of the present disclosure.

[0034] In the appended figures, similar components and/or features may have the same reference label. Further, various components of the same type may be distinguished by following the reference label by a letter that distinguishes among the similar components. If only the first reference label is used in the specification, the description is applicable to any one of the similar components having the same first reference label irrespective of the second reference label.

DETAILED DESCRIPTION

[0035] Presented herein are embodiments of a feature control system. The feature control system can comprise one device or a compilation of devices. Furthermore, the feature control system may include one or more communications devices, such as cellular telephones, or other smart devices. This device, or devices, may be capable of communicating with other devices and/or to an individual or group of individuals. Further, this device, or these devices, can receive user input in unique ways. As described herein, the device(s) may be electrical, mechanical, electro-mechanical, software-based, and/or combinations thereof.

[0036] For purposes of explanation, numerous details are set forth in order to provide a thorough understanding of the present invention. It should be appreciated, however, that the present invention may be practiced in a variety of ways beyond the specific details set forth herein.

[0037] Referring to Fig. 1, a block diagram is shown depicting a feature control system 100 in accordance with one embodiment of the present disclosure. In general the feature control system 100 comprises a feature control module 104 in communication with one or more of a communication device 108, sensor 136, 140, user 112, memory 106, 120, 124, server 122, and communication network 116. In some embodiments, the feature control module 104 is configured to control one or more device 108 features based on rules and/or input received. It is anticipated that the input received may be from one or more device 108, sensor 136, 140, and or

user 112. Moreover, rules may be stored in one or more memory 106, 120, 124 of the feature control system 100. For example, the feature control module 104 may detect the presence of a device 108 by a physical or wireless connection. Upon detecting the device 108, the feature control module 104 may determine to control features of the device 108 based on the stored rules. These stored rules may direct a course of action based on input detected at the sensors 136, 140 and/or device 108. If the sensors 136, 140 report that the device 108 and user 112 are in the driver's seat of the vehicle, the rules may determine to limit access to device 100 features.

[0038] In an exemplary embodiment, a vehicle comprises the feature control module 104 in its software and/or hardware implementation. However, the feature control module 104 may be located remotely from a vehicle and substantially perform all of the functions and operations as described herein. For example, the feature control module 104 may be integrated into the device 108. Additionally or alternatively, the feature control module 104 and/or its functionality could be split between the device 108 and an in-vehicle representation. For instance, the split embodiment may further control the device 108 by limiting the device's 108 ability to perform specific functions while coupled and/or decoupled from the feature control module 104 of the vehicle. Although it can be appreciated that the location of the feature control module 104 may vary, for the purposes of this disclosure, the feature control module 104 will be described as residing locally within a vehicle.

[0039] In some embodiments, the feature control module 104 may be configured to receive one or more inputs. These one or more inputs may be used to determine whether to control features associated with a device such as device 108. In general, a device in wireless and/or physical communication with the feature control module 104 may be controlled. The feature control module 104 may affect the control of a device's features via control of one or more of the device display, communications, state, applications, and/or combinations thereof. In one embodiment, a feature control module 104 may receive permission to control a device 108. This permission may be granted upon a registration of the device 108 with the feature control module 104. Furthermore, this type of registration may be achieved via the installation and/or operation of an application on the device 108. In an exemplary embodiment, the application may at least facilitate communications between the device 108 and the feature control module 104, control the state of the device 108 at the direction of the feature control module 104, and/or control a user's 112 access to one or more features of the device 108. However, it is an aspect of the

present disclosure that the feature control module 104 may affect the communications ability of any device 108 within a specific area of the vehicle based on signal attenuation and/or interference techniques.

[0040] The device 108 may include a global positioning system (GPS) receiver. In accordance with embodiments of the present disclosure, the GPS receiver may further comprise a GPS module that is capable of providing absolute location information to other components of the device 108 and/or the feature control module 104. An accelerometer(s)/gyroscope(s) may also be included. In some embodiments, the accelerometer/gyroscope may comprise at least one accelerometer and at least one gyroscope. For example, a signal from the accelerometer/gyroscope can be used to determine an orientation of the device 108. This orientation may be used by the feature control module to determine a state of the device 108.

[0041] It is anticipated that the device 108 may include a dual-screen phone, smartpad, and/or vehicle console as described in respective U.S. Patent Application Nos. 13/222,921, filed August 31, 2011, entitled “DESKTOP REVEAL EXPANSION,” and 13/247,581, filed September 28, 2011, entitled “SMARTPAD ORIENTATION,” and 13/420,240, filed March 14, 2012, entitled “REMOVABLE, CONFIGURABLE VEHICLE CONSOLE.” Each of the aforementioned documents is incorporated herein by this reference in their entirety for all that they teach and for all purposes.

[0042] The device 108 may be associated with one or more user 112. In some embodiments, a user 112 may be identified by one or more of characteristics, preferences, identification, and usage. In addition, historical data relating to the one or more user 112 may be stored by the device 108 in a memory 106, 120, 124. As can be appreciated the memory may be local 120, remote 106, 124, and/or combinations thereof.

[0043] The communication network 116 may be any type of known communication medium or collection of communication mediums and may use any type of protocols to transport messages between endpoints. The communication network 116 may include wired and/or wireless communication technologies. The Internet is an example of the communication network 116 that constitutes an IP network consisting of many computers and other communication devices located all over the world, which are connected through many telephone systems and other means. Other examples of the communication network 116 include, without limitation, a standard Plain Old Telephone System (POTS), an Integrated Services Digital

Network (ISDN), the Public Switched Telephone Network (PSTN), a Local Area Network (LAN), a Wide Area Network (WAN), a cellular communication network, a cable communication network, a satellite communication network, any type of enterprise network, and any other type of packet-switched or circuit-switched network known in the art. It can be appreciated that the communication network 116 need not be limited to any one network type, and instead may be comprised of a number of different networks and/or network types. In some embodiments, the communication network 116 may comprise a controller area network, or CANbus, associated with vehicle, automotive, and/or automation communications. Moreover, it is anticipated that communications between various components of the feature control system 100 can be carried by one or more busses.

[0044] The server 122 may comprise a general purpose programmable processor or controller for executing application programming or instructions. In accordance with at least some embodiments, the server 122 may include multiple processor cores, and/or implement multiple virtual processors. In accordance with still other embodiments, the server 122 may include multiple physical processors. As a particular example, the server may comprise a specially configured application specific integrated circuit (ASIC) or other integrated circuit, a digital signal processor, a controller, a hardwired electronic or logic circuit, a programmable logic device or gate array, a special purpose computer, or the like. The server 122 generally functions to run programming code or instructions implementing various functions of the feature control system 100 and/or feature control module 104.

[0045] The vehicle sensors 132 may include but are not limited to one or more of a throttle position sensor, accelerator pedal angle sensor, speed sensor, speedometer, vehicle speed sensor, wind speed, radar, brake position sensor, brake wear sensor, steering/torque sensor, transmission sensor, oxygen sensor, headlight sensor, ambient lighting sensor, vision system sensor, ranging sensor, parking sensor, heating venting and air conditioning (HVAC) sensor, turbine speed sensor, input speed sensor, water sensor, air-fuel ratio meter, blind spot monitor, crankshaft position sensor, engine temperature sensor, cabin temperature sensor, hall effect sensor, manifold absolute pressure sensor, mass flow sensor, microphone, camera sensor, crash detection sensor, safety restraint sensors, weight sensor, radio frequency (RF) sensor, infrared sensor (IR), vehicle control system sensors, location and/or position sensors, Wi-Fi sensor, cellular data sensor, Bluetooth sensor, and the like. In some embodiments, the one or more vehicle sensors 132 may

be located in different areas or zones of a vehicle. For instance a first sensor 136a may be located in a proximal portion of a vehicle, while a second sensor 136b may be located in a distal portion of the vehicle. As can be appreciated the number of vehicle sensors 132 may vary according to vehicle type and/or vehicle control system complexity. In an exemplary embodiment, the vehicle sensors 132 may be configured to communicate across a communication network 116 and/or directly with the feature control module 104. One example of a communication network in a typical automotive application may include utilizing the CANbus and associated protocol.

[0046] In some embodiments, the feature control module 104 may employ the use of one or more non-vehicle sensors 140. The non-vehicle sensors 140 may include one or more type of vehicle sensor 132 described herein. However, the non-vehicle sensors 140 may be separated from the vehicle. Additionally or alternatively, the non-vehicle sensors 140 may comprise sensors associated with one or more other devices. For instance, the non-vehicle sensors 140 may be associated with at least one device 108. These sensors may include but are not limited to one or more of an accelerometer/gyroscope, GPS, compass, camera, microphone, audio input/output, temperature sensor, health monitoring sensors, and the like.

[0047] Fig. 2 is a block diagram depicting areas and zones associated with a vehicle 204 in accordance with one embodiment of the present disclosure. In general, a vehicle 204 may comprise one or more areas 208, 216, 220. The areas 208, 216, 220 may in fact be a volume of space and/or a point location (e.g., a docking location, holder, power port, signal port, and so on). These one or more areas 208, 216, 220 may be located inside (208) or outside (216, 220) of a vehicle 204. It is an aspect of the present disclosure that the one or more areas 208, 216, 220 of a vehicle 204 may occupy different, overlapping, or substantially similar physical positions in and/or about the vehicle 204. For instance, the inside of a vehicle 204 may comprise a first area 208a and a second area 208b. As depicted, the first area 208a may occupy a different physical location of the vehicle 204 than the second area 208b. In some embodiments, the areas 208 may be subdivided into one or more zones 212. The one or more zones 212 may completely occupy an area 208 of the vehicle 204. Additionally or alternatively, the one or more zones 212 may occupy a portion of an area 208 of the vehicle 204. It is anticipated that the one or more areas 208 of a vehicle 204 may comprise different zone 212 to area 208 ratios. For example, a vehicle 204 may comprise a first area 208a including a first zone 212a and a second zone 212b. This

first area 208a may correspond to the proximal portion of a vehicle 204. The first zone 212a may represent a driver/operator seat of a vehicle 204, while the second zone 212b may represent a proximal passenger seat of a vehicle 204. Continuing the example above, a second area 208b may include a third zone 212c, a fourth zone 212d, and a fifth zone 212e. This second area 208b may represent a passenger area of a vehicle 204. The third zone 212c, fourth zone 212d, and fifth zone 212e may represent individual passenger seats, and/or areas, in the passenger area of the vehicle 204.

[0048] In some embodiments, each area 208, 216, 220 and/or zone 212 associated with a vehicle 204 may comprise one or more sensors to determine a presence in and/or adjacent to each area 208, 216, 220 and/or zone 212. The sensors may include vehicle sensors 132 and/or non-vehicle sensors 140 as described herein. It is anticipated that the sensors may be configured to communicate with a vehicle controls system and/or the feature control module 104.

Additionally or alternatively, the sensors may communicate with a device 108. The communication of sensors with the vehicle 204 may initiate and/or terminate the control of device 108 features. For example, a vehicle operator may be located in a second outside area 220 associated with a vehicle 204. As the operator approaches the first outside area 216 associated with the vehicle 204, the feature control module 104 may determine to control features associated with one or more device 108. In an exemplary embodiment, the feature control module 104 may determine to control features associated with the device 108 of the vehicle operator. In this scenario, the feature control module 104 may determine to control a vehicle status application on the device 108. Once the vehicle operator enters the vehicle 204, the sensors 132, 140 may determine that the vehicle operator is in an area 208 and/or zone 212. As is further described herein, the feature control module 104 may utilize the device 108, and/or user 112, location information to control features of the device 108 based on rules.

[0049] Figs. 3-6 depict multiple methods of the feature control system 100 operation. In some embodiments, the feature control system 100 methods may be controlled manually via user input and/or automatically via a processor.

[0050] Fig. 3 is a flow diagram depicting a first feature control system method 300 in accordance with embodiments of the present disclosure. The method 300 begins at step 304 by detecting one or more devices 108 associated with the vehicle 204. Detection may include a voluntary registration and/or communication between a vehicle 204 and a device 108. Among

other things, this type of registration and/or communication may be facilitated via the installation of an application on the device 108. In some embodiments, the application may provide one or more of a communication protocol, use permissions, and access to the feature control module 104. For example, a user may turn on a newly presented device 108 inside a vehicle 204, and as a result may be prompted to register the device 108 with the vehicle 204. This registration prompt process may be effected automatically and/or manually. In some embodiments, the feature control module 104, utilizing one or more sensors 132, 140, may detect the presence of a device 108 and send a signal to the device 108 in the form of an installation prompt.

[0051] In other embodiments, the feature control module 104 may communicate with a device 108 via a physical electrical connection. For instance, the feature control module 104 may include an electrical interconnection configured to facilitate communications between the feature control module 104 and at least one device 108. In one embodiment of the present disclosure the electrical interconnection may provide power to the device 108 via this electrical interconnection.

[0052] In yet another embodiment, the feature control module 104 may communicate with a device 108 via one or more wireless protocol. It is anticipated that the wireless protocol may include, but is not limited to, one or more existing communications protocols and/or equivalents thereof. Common device 108 communications protocols may include Bluetooth®, Wi-Fi (IEEE 802.11 standards), RF, IR, and variations thereof. In some instances, a device 108 may be paired with one or more sensors used by the feature control module 104 to allow persistent and/or reestablishing communications between the device 108 and the feature control module 104.

[0053] The method 300 continues at step 312 by determining the location of the one or more detected devices 108. In accordance with some embodiments of the present disclosure, the location of a device 108 may be found using vehicle sensors 132 and/or non-vehicle sensors 140. For example, a device 108 may be detected using sensors 132, 140 found inside a vehicle 204. The location of the device 108 inside the vehicle 204 may be obtained via the use of triangulation, sensing, and/or ranging techniques (e.g., measuring signal strength from different points, ping and response, and/or similar position detecting procedures). The procedure of determining a location associated with a device 108 becomes more streamlined upon the physical connection to a known port/electrical connection of the vehicle 204. Moreover, if the device 108 is registered to a particular user 112, the location of the device 108 may be interpreted using

stored preferences and/or settings. It is an aspect of the present disclosure that the device 108 itself may report a position/location. This location may be provided via typical device 108 location services such as GPS, Wi-Fi data, and/or cellular data.

[0054] In some embodiments, different locations of a device 108 may provide different responses from the feature control module 104. For example, a device 108 may be determined to be in a location where use of a device 108 is considered to be highly-restricted. The driver's seat and/or pilot area may be an example of such a highly-restricted use location. As such, the feature control module 104 may limit access to the device 108 and/or features of the device 108 based on rules assigned to this zone 212 and/or area 208. In accordance with the present disclosure, another location of the vehicle 204 may be classified as a restricted location. In such locations, the feature control module 104 may determine to control access to the device 108 and/or features of the device 108 based on less restrictive rules than those used for the highly-restricted location. In some embodiments, a device 108 may be used in an unrestricted location. This unrestricted location may allow a user 112 complete access to a device 108 based on rules defined for the unrestricted location. As can be appreciated, different areas 208 and/or zones 212 of a vehicle 204 may be classified as various levels of restricted use. Although the highly-restricted, restricted, and unrestricted locations have been presented herein, it is an aspect of the present disclosure that many levels of restricted and/or unrestricted use may be utilized by the feature control module 104.

[0055] In some embodiments, the method 300 continues by determining one or more vehicle-device use laws (step 312). These vehicle-device use laws may be provided by an organization, governmental entity, group, individual, and/or combinations thereof. Additionally or alternatively, the laws may be created in response to detected input and/or conditions monitored by the feature control module 104, device 108, and/or sensors 132, 140. The laws may be stored in local memory 106 by the feature control module 104, or the laws may be retrieved from another stored data memory 120, 124. In some cases, the feature control module may refer to a remote memory 120, 124 to determine laws and/or rules associated with a specific locality, region, user 112, and/or device 108.

[0056] In an exemplary embodiment, the laws may be statutes and/or regulations that are enforced by a government entity. These laws may define vehicle, traffic, transportation, and/or safety rules associated with a given geographical region. Moreover, these laws may be stored

locally and/or remotely as described herein. Furthermore, the laws may be updated from time to time to, among other things, account for changes in the laws. For example, the State of Idaho may ban the use of texting (i.e., sending a text message via some device 108) while driving, but may allow the use of a handheld mobile phone (e.g., device). In contrast, the State of Oregon may completely ban the use of handheld devices. While the user 112 is traveling in Idaho, the feature control module 104 may refer to the laws of Idaho and determine to control the device 108 in accordance with Idaho law. However, once the user 112 is detected as being in Oregon, the feature control module 104 may control the device 108 based, at least in part, on the laws of Oregon. This procedure will be described further herein, however, it should be noted that the vehicle sensors 132 and/or other sensors 140 may determine at least one location of the device 108, and refer to laws associated with that at least one location to control the device 108 accordingly.

[0057] The method continues at step 316 by determining settings of the one or more associated devices 108. These settings may include data relating to the feature control module 104, communications, permissions, device 108 control, methods, user preferences, historical data, and the like. As can be appreciated, a device 108 may have multiple power states associated with its operation. Most devices, including smartphones, tablets, handheld computers, and the like, do not have simple “On/Off” states. To differentiate between these power states, the following terminology will be used to better define the multiple power states of a device 108. “Device Off” is used to indicate that the device 108 is completely turned off; in other words, virtually no power is being used by the communication device 108 in this state. When “Device Off” the device 108 cannot receive or transmit typical communications, signals, alerts, and the like. “Device On” is used to indicate that the device 108 is turned on, capable of receiving and transmitting communications, signals, and alerts, and power is directed to the device 108 display and all recruited components. In some embodiments, “Device On” may indicate that the device 108 display is fully powered. In another embodiment, a fully powered display may indicate that the device 108 is in a condition to detect input received at all areas of the display (e.g., touch-screen). “Device Lock” is used to indicate that power to the communication device 108 display 328 is limited, but the device 108 is capable of receiving and transmitting communications, signals, alerts, and the like. Device Lock saves battery power by reducing power supplied to the display while allowing applications to present an alert to the display or other indicator upon

direction of the feature control module 104 and/or an application. In an embodiment where the display may comprise a touch-screen, a Device Lock state may cause reduced power to be directed to the display (e.g., in a limited area or section of the display). In accordance with some embodiments of the present disclosure, the feature control module 104 and/or application may transition the device 108 from a Device On state to a Device Lock state and vice versa.

[0058] The settings of a device 108 may be configured to lock the device 108, or operate the device 108 in a Device Lock state, when controlled by the feature control module 104. For instance, a parent/guardian may configure a child's device 108 to be controlled in accordance with strict settings and/or preferences. In this instance, the parent/guardian may determine that a device 108 may be a distraction to a child, while driving, in any state other than the Device Lock state. As such, the parent/guardian can set the device 108 to respond to feature control module 104 controls by operating the device in a Device Lock state. In contrast, a parent/guardian may wish to configure the settings of a device 108 to be less strict and allow access to other features of the device 108. In this case, a parent/guardian may configure a device 108 to only lock specific features associated with the device 108. In any event, the device 108 may be controlled at higher levels of strictness than provided by the vehicle-device laws determined in step 312. These higher levels of strictness may be provided by user preferences and/or device 108 settings. In some cases, the device 108 state may override settings, laws, and/or preferences.

[0059] The method continues by determining the state of the device 108 (step 320). States of the device 108 may include one or more power state (on, off, and/or locked), orientation (vertical, horizontal, angle, etc.), operation (e.g., input type, running and/or background applications), sensor states, and the like. Among other things, specific device 108 states may indicate one or more conditions related to the user 112, vehicle 204, and/or the device 108 itself. For example, a device 108 may be in an unpowered, or Device Off, state and as such the condition may preclude control by the feature control module 104. On the other hand, the state information of the device 108 may indicate that the device 108 is operating in a Device On state and may be subject to control via the feature control module 104. It is an aspect that sensor information received from a device 108 may determine control via the feature control module 104. For instance, one or more sensors on a device 108 may detect an impact, shock, and/or other tactile input and may correlate the data (in some instances in combination with other data) to determine a response by the feature control module 104.

[0060] The vehicle state is determined at step 324. This vehicle state may include but is not limited to vehicle motion (driving, stopped, etc.), position (geographically), speed, acceleration, deceleration, transmission state (in-park, engaged drive, engaged reverse, in-gear, neutral), component status (parking brake, airbag, safety restraint system, engine control unit (ECU) output, CANbus activity), occupants (number, position, weight, and the like), sensor information (temperatures, pressures, etc.), and combinations thereof. In an exemplary embodiment, a user 112 may be driving a vehicle 204 while attempting to simultaneously operate an associated device 108. Upon detecting that the vehicle 204 is moving, the feature control module 104 may control the device 108 and/or features of the device 108 accordingly. Additionally or alternatively, when the vehicle 204 is determined to be in a stationary state (i.e., not moving), and even in-park, the feature control module 104 may determine to cease controlling the device 108.

[0061] In some embodiments, the vehicle 204 state may indicate an emergency condition. For example, the vehicle 204, via one or more sensors 132, 140 may indicate that the vehicle 204 has been subjected to substantial amounts of impact force, the airbag deployed, the anti-lock braking system engaged, the vehicle 204 instantaneously moved in a direction contrary to historical data collected over time, the speed of the vehicle reduced dramatically, and more. These exemplary sensor responses may be indicative of an accident. In any event, the feature control module 104 may be configured to address emergency scenarios, especially with respect to the control of one or more devices 108. In one embodiment, an emergency state may cause the feature control module 104 to provide unfettered access to the device 108 and/or its features. In another embodiment, an emergency state may cause the feature control module 104 to present an emergency message to the one or more devices 108. This emergency message may be sent to emergency services personnel and/or a third party. Furthermore, the emergency message may include details regarding the emergency, the state of the vehicle 204, the state of a user, and/or the state of the device 108.

[0062] The feature control module 104 is configured to control one or more devices 108 based at least in part on rules (step 328). In general, the feature control module may utilize any one or more of the steps presented herein in determining control of the one or more devices 108. In some embodiments, the rules may direct that all of the steps disclosed herein be considered before the specific control of a device 108 is initiated. These rules may include at least one

algorithm to provide a controlling action response from the feature control module 104. The rules may use sensor information collected, settings, laws, and more in determining a control action.

[0063] Control of a device 108 may take a number of forms. In some embodiments, control of a device 108 may include restricting access to specific applications, programs, and/or features of the device 108. For example, a user 112 whose device is being controlled by a feature control module 104 may be allowed to access the home screen of a device 108 to check the time and/or date. However, this user 112 may be restricted, by the feature control module 104, from accessing a communications interface (e.g., telephone, texting, SMS, MMS, email, web browsers, and the like). Additionally or alternatively, the user may be restricted from accessing programs that require physical input at the device 108. For instance, a user 112 may be allowed to use the device 108 to send some form of communication and/or interface with the device 108 using voice commands and/or visual input.

[0064] In some embodiments, the control of a device 108 may include transitioning the device 108 from one state to another. Among other things, various device 108 states may include Device On, Device Off, and Device Lock. In accordance with the present disclosure, and as previously stated, the rules may refer to location of the device 108 to activate and/or deactivate a control action. Additionally or alternatively, a control message may be presented to an interface associated with the device 108 to indicate that the device 108 is controlled or released from control.

[0065] In other embodiments, the control of a device 108 may include blocking communications to and/or from the device 108. This type of communications control may be activated in one or more of an area 208, a zone 212, and a device 108. For instance, if one or more devices 108 are detected in a given area 208, the feature control module 104 may determine to control all of the devices 108 together. This control may include interfering with the devices' 108 communication abilities.

[0066] Fig. 4 is a flow diagram depicting a second feature control system method 400 in accordance with embodiments of the present disclosure. In general, the method 400 is directed to detecting a device 108 and any associated settings for the control of the device 108. The method begins at step 404 and proceeds by detecting one or more device 108 (step 408). As disclosed above, detection may be achieved through physical and/or wireless techniques.

Moreover, the disclosed detection techniques may be automatically performed and/or manually initiated. If no device is detected, the method ends (step 442).

[0067] Upon detecting a device, however, the method 400 continues by determining whether any settings are associated with the device 108 (step 412). These settings may include data associated with a user, device, application, and/or feature control module 104. Typical settings may be stored in device data 120, at the feature control module 104 system data 106, and/or remotely in stored data 124. If no settings are detected, the user 112 may be prompted to enter settings, and/or configure the device 108 (step 416).

[0068] At this point, the user 112 may enter settings as prompted (step 420). In other words, the user 112 may enter settings information at one or more of the device 108, interface to the feature control module 104, and/or at a server 122. The settings may be prompted via at least one application running on the device, a server, and/or running as part of the feature control module 104. If the user fails to enter settings as prompted, the method 400 may continue by optionally controlling the device 108 based on default settings (step 424) and/or end the method (step 442).

[0069] If settings are available, or if the user 112 enters settings as prompted, the method 400 may continue by controlling the device 108 based at least in part on the settings and on rules stored in memory (step 428). In an exemplary embodiment, the feature control module 104 may control one or more behavior of the device 108. For example, rules may dictate that while a vehicle 204 is in motion, the device 108 should be controlled for all communications applications. Additionally or alternatively, a user 112 may enter settings directing that, when controlled by a feature control module 104, the device 104 should be transitioned to a Device Lock state. Moreover, the user 112 may wish to have an alert/notification pushed to the device 108 interface to indicate that the device 108 is being controlled. This alert/notification may be provided in the form of a message. It is anticipated that vehicle 204 and/or device 108 conditions may be continually monitored by the feature control module 104 to modify the control method 400. Once a device 108 is controlled, the method may return to detecting any available devices 108 (step 408). If no device is found, the method ends (step 442).

[0070] Referring to Fig. 5, a flow diagram is shown depicting a third feature control system method 500 in accordance with embodiments of the present disclosure. Among other things, the method 500 discloses a feature control module 104 utilizing device 108 and/or vehicle 204

location to determine at least one control action. The method begins at step 504 and proceeds by detecting one or more device 108 (step 508). If no device is found, the method ends (step 520).

[0071] Upon detecting a device 108, the method 500 continues by determining the location of the device 108 (and/or vehicle 204)(step 512). The location of the device 108 may refer to physical location of the device 108 inside or outside of a vehicle 204. In the event that a device 108 is determined to be located inside a vehicle 204, a specific location of the device 108 may be determined. Additionally or alternatively, the device 108 may be determined to be in a general location inside the vehicle 204. Depending on the rules and/or state of the vehicle 204, the specific location of the device 108 may be important to the feature control module 104 in determining to control the device 108 or its features. For example, a device 108 detected in the driver's seat of a vehicle 204 may be controlled differently than a device 108 detected in the rear passenger seat of a vehicle 204. As one example, a device 108 in the driver's seat may be controlled to more strict conditions. On the other hand, a device 108 found in the rear passenger location may be unrestricted or minimally restricted.

[0072] In some embodiments, the location of the device 108 may include a location of the vehicle 204. In other words, a location of the device 108 detected inside a vehicle 204, may be provided by a GPS or other location service of the vehicle and/or the device 108 itself. This geographical location of the vehicle 204 may be used by the feature control module 104 in initiating a control action. In particular, the feature control module 104 may refer to laws associated with the geographical location of the vehicle 204 in controlling the device 108. In some instances, these laws may be related to traffic and/or vehicle-device use statutes created by a government or third party.

[0073] When the device 108 is location is determined, the method 500 continues by controlling the device 108 based at least partially on the location of the device 108 and stored rules (step 516). As provided in an example above, a device 108 may be controlled in accordance with laws based on the location of the device 108 in the vehicle 204. The method 500 may continue by returning to the step of detecting devices (step 508). If no device is found, the method ends (step 520).

[0074] Fig. 6 is a flow diagram depicting a fourth feature control system method 600 in accordance with embodiments of the present disclosure. In general, the method 600 is directed to determining a state of a vehicle 204 to provide control action guidance for the feature control

module 104. In some embodiments, the feature control module 104 may be configured to cease control of a device and/or its applications based on a number of states associated with a vehicle 204. One of these overriding control states is an emergency detected by the feature control module 104.

[0075] The method 600 begins at step 604 and proceeds by determining whether one or more devices 108 have been detected (step 608). If no device is found, the method ends (step 628). However, upon detecting a device 108, the method 600 continues by determining a state of the vehicle 204 (step 612). A vehicle state may be determined by one or more inputs provided via the vehicle sensors 132, non-vehicle sensors 140, device 108, and a user 112.

[0076] In some embodiments, the method 600 may interpret the nature of the vehicle state determined in step 612. In particular, the feature control module 104 may determine whether the vehicle is in a state of emergency or not (step 616). As described above, an emergency state may be determined from a number of vehicle 204 inputs. For example, various vehicle sensors 132 may indicate that an oil line associated with the vehicle 204 is losing pressure, the engine is reaching an unusually high predetermined temperature, and the safety restraint sensors detect impact at the front of the vehicle 204. This combination of sensor inputs may be enough to qualify as an emergency. In some embodiments, the user 112 may input an override command to indicate an emergency state. This override command may be in the form of video, voice, tactile, or other input.

[0077] Upon detecting an emergency state of the vehicle 204, the feature control module 104 may be directed to override specific controlled features of the device 108 (step 620). In other words, the feature control module 104 may allow access to all, or less than all, of the features of the device 108. For example, in the event of an emergency, a user's 112 access to the communications applications of a device 108 may be considered important if not critical. Therefore, a detected emergency state may prevent the restricted control of the device's communication hardware and/or software.

[0078] In the event that the vehicle state is not determined to be an emergency, the method 600 continues by controlling the device 108 based at least partially on the vehicle state and stored rules (step 624). For example, one or more sensors 132, 140 may indicate that a vehicle 204 has reduced speed in a short amount of time. However, the feature control module 104 may determine that this type of scenario is not an emergency. As such, the device 108 may be

controlled in accordance with the current vehicle state and rules. For instance, the vehicle state may indicate that the vehicle 204 is stopped and in-park. In this case, the feature control module 104 may allow access to features of the device 108. Upon detecting a state change of the vehicle 204, the feature control module 104 may control the device 108 differently (e.g., restricting access to features of the device 108). The method 600 may continue by returning to the step of detecting devices (step 608). If no device is found the method ends (step 628).

[0079] The exemplary systems and methods of this disclosure have been described in relation to a feature control module 104 and associated devices 108. As suggested by this disclosure, features may be shared between a feature control module 104 and a device 108. However, to avoid unnecessarily obscuring the present disclosure, the preceding description omits a number of known structures and devices. This omission is not to be construed as a limitation of the scopes of the claims. Specific details are set forth to provide an understanding of the present disclosure. It should however be appreciated that the present disclosure may be practiced in a variety of ways beyond the specific detail set forth herein.

[0080] Furthermore, while the exemplary aspects, embodiments, and/or configurations illustrated herein show the various components of the system collocated, certain components of the system can be located remotely, at distant portions of a distributed network, such as a LAN and/or the Internet, or within a dedicated system. Thus, it should be appreciated, that the components of the system can be combined in to one or more devices, such as a Personal Computer (PC), laptop, netbook, smart phone, Personal Digital Assistant (PDA), tablet, etc., or collocated on a particular node of a distributed network, such as an analog and/or digital telecommunications network, a packet-switch network, or a circuit-switched network. It will be appreciated from the preceding description, and for reasons of computational efficiency, that the components of the system can be arranged at any location within a distributed network of components without affecting the operation of the system. For example, the various components can be located in a switch such as a PBX and media server, gateway, in one or more communications devices, at one or more users' premises, or some combination thereof. Similarly, one or more functional portions of the system could be distributed between a telecommunications device(s) and an associated computing device.

[0081] Furthermore, it should be appreciated that the various links connecting the elements can be wired or wireless links, or any combination thereof, or any other known or later developed

element(s) that is capable of supplying and/or communicating data to and from the connected elements. These wired or wireless links can also be secure links and may be capable of communicating encrypted information. Transmission media used as links, for example, can be any suitable carrier for electrical signals, including coaxial cables, copper wire and fiber optics, and may take the form of acoustic or light waves, such as those generated during radio-wave and infra-red data communications.

[0082] Also, while the flowcharts have been discussed and illustrated in relation to a particular sequence of events, it should be appreciated that changes, additions, and omissions to this sequence can occur without materially affecting the operation of the disclosed embodiments, configuration, and aspects.

[0083] A number of variations and modifications of the disclosure can be used. It would be possible to provide for some features of the disclosure without providing others.

[0084] In some embodiments, the systems and methods of this disclosure can be implemented in conjunction with a special purpose computer, a programmed microprocessor or microcontroller and peripheral integrated circuit element(s), an ASIC or other integrated circuit, a digital signal processor, a hard-wired electronic or logic circuit such as discrete element circuit, a programmable logic device or gate array such as PLD, PLA, FPGA, PAL, special purpose computer, any comparable means, or the like. In general, any device(s) or means capable of implementing the methodology illustrated herein can be used to implement the various aspects of this disclosure. Exemplary hardware that can be used for the disclosed embodiments, configurations and aspects includes computers, handheld devices, telephones (e.g., cellular, Internet enabled, digital, analog, hybrids, and others), and other hardware known in the art. Some of these devices include processors (e.g., a single or multiple microprocessors), memory, nonvolatile storage, input devices, and output devices. Furthermore, alternative software implementations including, but not limited to, distributed processing or component/object distributed processing, parallel processing, or virtual machine processing can also be constructed to implement the methods described herein.

[0085] In yet another embodiment, the disclosed methods may be readily implemented in conjunction with software using object or object-oriented software development environments that provide portable source code that can be used on a variety of computer or workstation platforms. Alternatively, the disclosed system may be implemented partially or fully in

hardware using standard logic circuits or VLSI design. Whether software or hardware is used to implement the systems in accordance with this disclosure is dependent on the speed and/or efficiency requirements of the system, the particular function, and the particular software or hardware systems or microprocessor or microcomputer systems being utilized.

[0086] In yet another embodiment, the disclosed methods may be partially implemented in software that can be stored on a storage medium, executed on programmed general-purpose computer with the cooperation of a controller and memory, a special purpose computer, a microprocessor, or the like. In these instances, the systems and methods of this disclosure can be implemented as program embedded on personal computer such as an applet, JAVA® or CGI script, as a resource residing on a server or computer workstation, as a routine embedded in a dedicated measurement system, system component, or the like. The system can also be implemented by physically incorporating the system and/or method into a software and/or hardware system.

[0087] Although the present disclosure describes components and functions implemented in the aspects, embodiments, and/or configurations with reference to particular standards and protocols, the aspects, embodiments, and/or configurations are not limited to such standards and protocols. Other similar standards and protocols not mentioned herein are in existence and are considered to be included in the present disclosure. Moreover, the standards and protocols mentioned herein and other similar standards and protocols not mentioned herein are periodically superseded by faster or more effective equivalents having essentially the same functions. Such replacement standards and protocols having the same functions are considered equivalents included in the present disclosure.

[0088] The present disclosure, in various aspects, embodiments, and/or configurations, includes components, methods, processes, systems and/or apparatus substantially as depicted and described herein, including various aspects, embodiments, configurations embodiments, subcombinations, and/or subsets thereof. Those of skill in the art will understand how to make and use the disclosed aspects, embodiments, and/or configurations after understanding the present disclosure. The present disclosure, in various aspects, embodiments, and/or configurations, includes providing devices and processes in the absence of items not depicted and/or described herein or in various aspects, embodiments, and/or configurations hereof,

including in the absence of such items as may have been used in previous devices or processes, e.g., for improving performance, achieving ease and/or reducing cost of implementation.

[0089] The foregoing discussion has been presented for purposes of illustration and description. The foregoing is not intended to limit the disclosure to the form or forms disclosed herein. In the foregoing Detailed Description for example, various features of the disclosure are grouped together in one or more aspects, embodiments, and/or configurations for the purpose of streamlining the disclosure. The features of the aspects, embodiments, and/or configurations of the disclosure may be combined in alternate aspects, embodiments, and/or configurations other than those discussed above. This method of disclosure is not to be interpreted as reflecting an intention that the claims require more features than are expressly recited in each claim. Rather, as the following claims reflect, inventive aspects lie in less than all features of a single foregoing disclosed aspect, embodiment, and/or configuration. Thus, the following claims are hereby incorporated into this Detailed Description, with each claim standing on its own as a separate preferred embodiment of the disclosure.

[0090] Moreover, though the description has included description of one or more aspects, embodiments, and/or configurations and certain variations and modifications, other variations, combinations, and modifications are within the scope of the disclosure, e.g., as may be within the skill and knowledge of those in the art, after understanding the present disclosure. It is intended to obtain rights which include alternative aspects, embodiments, and/or configurations to the extent permitted, including alternate, interchangeable and/or equivalent structures, functions, ranges or steps to those claimed, whether or not such alternate, interchangeable and/or equivalent structures, functions, ranges or steps are disclosed herein, and without intending to publicly dedicate any patentable subject matter.

What is claimed is:

1. A method of controlling access to one or more features of a communication device associated with a vehicle, comprising:

establishing, by a microprocessor executable feature control module, a connection with the communication device, wherein the feature control module is configured to receive input from at least one sensor;

determining, by the feature control module, a location of the communication device relative to the vehicle; and

controlling, via the feature control module and based at least partially on the location of the communication device, user access to one or more features of the communication device.

2. The method of claim 1, wherein the connection between the communication device and feature control module is established via manually registering the communication device with the feature control module.

3. The method of claim 1, wherein the connection between the communication device and feature control module is established via automatically registering the communication device with the feature control module.

4. The method of claim 3, wherein automatically registering the communication device further comprises storing in a memory an identifier associated with the communication device.

5. The method of claim 1, wherein the location of the communication device is determined to be inside the vehicle.

6. The method of claim 5, wherein the inside of the vehicle is arranged into one or more areas, and wherein the communication device is located in a specific area of the one or more areas.

7. The method of claim 6, wherein the specific area is associated with an operating area of the vehicle, and wherein the feature control module restricts access to the one or more features of the communication device.

8. The method of claim 6, wherein the specific area is associated with a passenger area of the vehicle, and wherein the feature control module allows unrestricted access to the one or more features of the communication device.

9. The method of claim 1, further comprising:
referring to one or more rules relating to operating the communication device while operating the vehicle; and
wherein user access to the one or more features of the communication device is controlled based at least partially on the one or more rules.

10. The method of claim 9, wherein the one or more rules correspond to laws associated with a geographical region, and wherein the laws are stored in a memory.

11. The method of claim 1, further comprising:
referring to one or more settings associated with the communication device; and
wherein user access to the one or more features of the communication device is controlled based at least partially on the one or more settings.

12. The method of claim 1, further comprising:
determining a state of the vehicle associated with the communication device, wherein determining the vehicle state further comprises:
receiving input from the at least one sensor; and
interpreting whether the input received indicates an emergency state associated with the vehicle;
wherein user access to the one or more features of the communication device is controlled based at least partially on the determined state of the vehicle.

13. The method of claim 12, wherein the vehicle is determined to be in an emergency state, and wherein unrestricted user access to the one or more features of the communication device is allowed.

14. The method of claim 12, wherein the vehicle is determined to be in a parked state, and wherein unrestricted user access to the one or more features of the communication device is allowed.

15. The method of claim 12, wherein the vehicle is determined to be in a moving state, and wherein user access to the one or more features of the communication device is restricted.

16. A tangible, non-transitory computer readable medium having instructions stored thereon that, when executed by a processor, perform the method comprising:

- establishing a connection with the communication device;
- receiving input from at least one sensor;
- determining a location of the communication device relative to a vehicle; and
- controlling based at least partially on the location of the communication device, user access to one or more features of the communication device.

17. The non-transitory computer readable medium of claim 16, wherein the method further comprises:

- referring to one or more rules relating to operating the communication device while operating the vehicle, wherein the one or more rules correspond to laws associated with a geographical region, and wherein the laws are stored in a memory; and

- wherein user access to the one or more features of the communication device is controlled based at least partially on the one or more rules

18. The non-transitory computer readable medium of claim 16, wherein the method further comprises:

- referring to one or more settings associated with the communication device; and
- wherein user access to the one or more features of the communication device is controlled based at least partially on the one or more settings.

19. A system for controlling access to one or more features of a communication device associated with a vehicle, comprising:

a feature control module, wherein the feature control module is configured to control the communication device via communication across the communication network;

at least one sensor; and

a microprocessor executable feature control module operable to:

establish a connection with the communication device, wherein the feature control module is configured to receive input from the at least one sensor;

determine a location of the communication device relative to the vehicle; and

control, based at least partially on the location of the communication device, user access to one or more features of the communication device.

20. The system of claim 19, further comprising:

a rules management server, wherein the rules management server is configured to control access to one or more rules relating to operating the communication device while operating the vehicle; and

wherein the method further comprises:

referring to one or more rules relating to operating the communication device while operating the vehicle; and

wherein user access to the one or more features of the communication device is controlled based at least partially on the one or more rules.

ABSTRACT

Methods and systems for a controlling device features based on vehicle state and device location are provided. Specifically, the device may be any type of electrical device capable of transmitting and/or receiving a signal (such as a phone, tablet, computer, music player, and/or other entertainment device). In some instances, the device may be associated with one or more vehicles. Although the device may be configured to run one or more applications, the functionality of the one or more applications may be controlled by a system associated with the vehicle. In some cases, this control may depend on the device application type, device location (either inside or outside of a vehicle), law, operator state, and/or vehicle state.

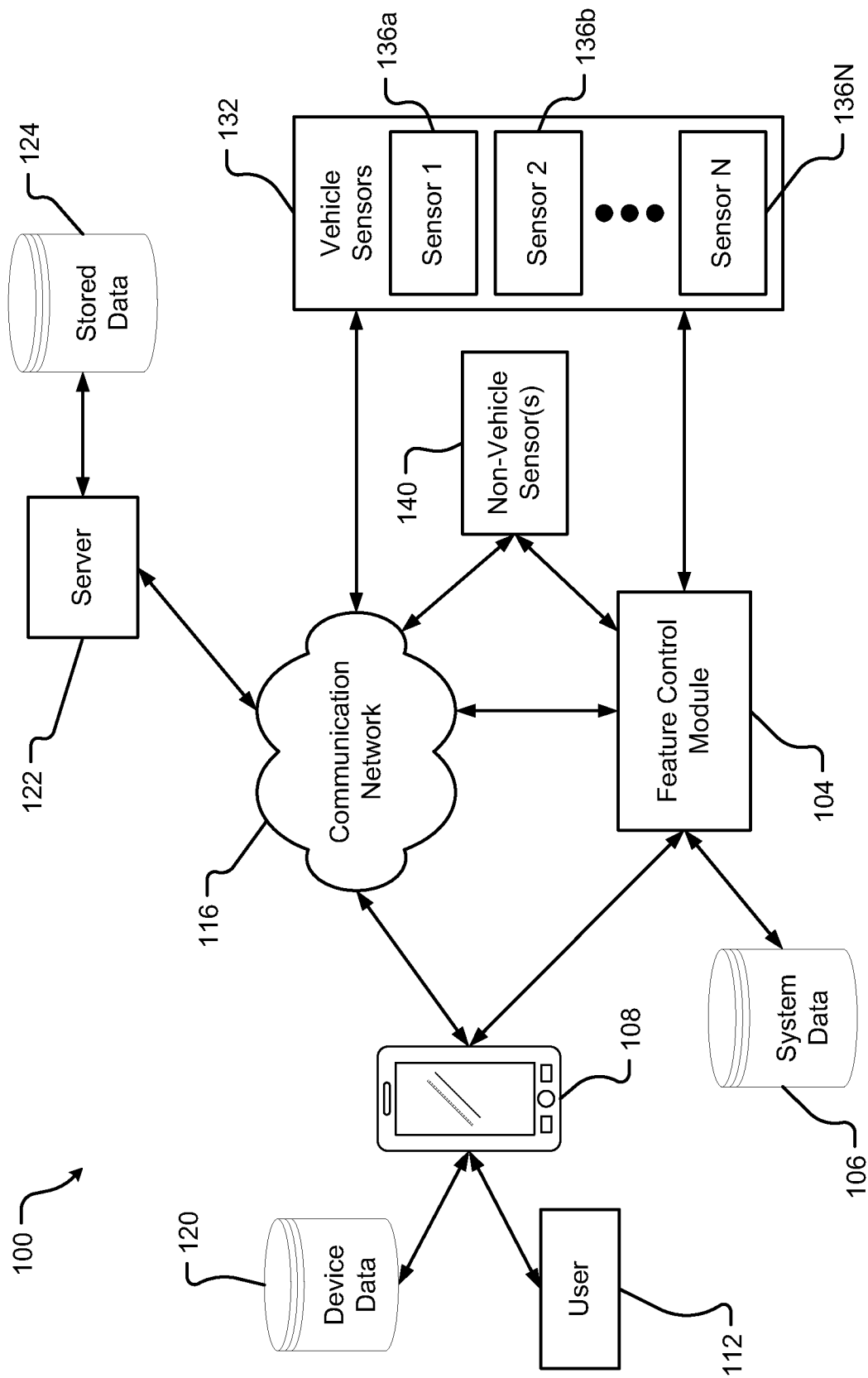


Fig. 1

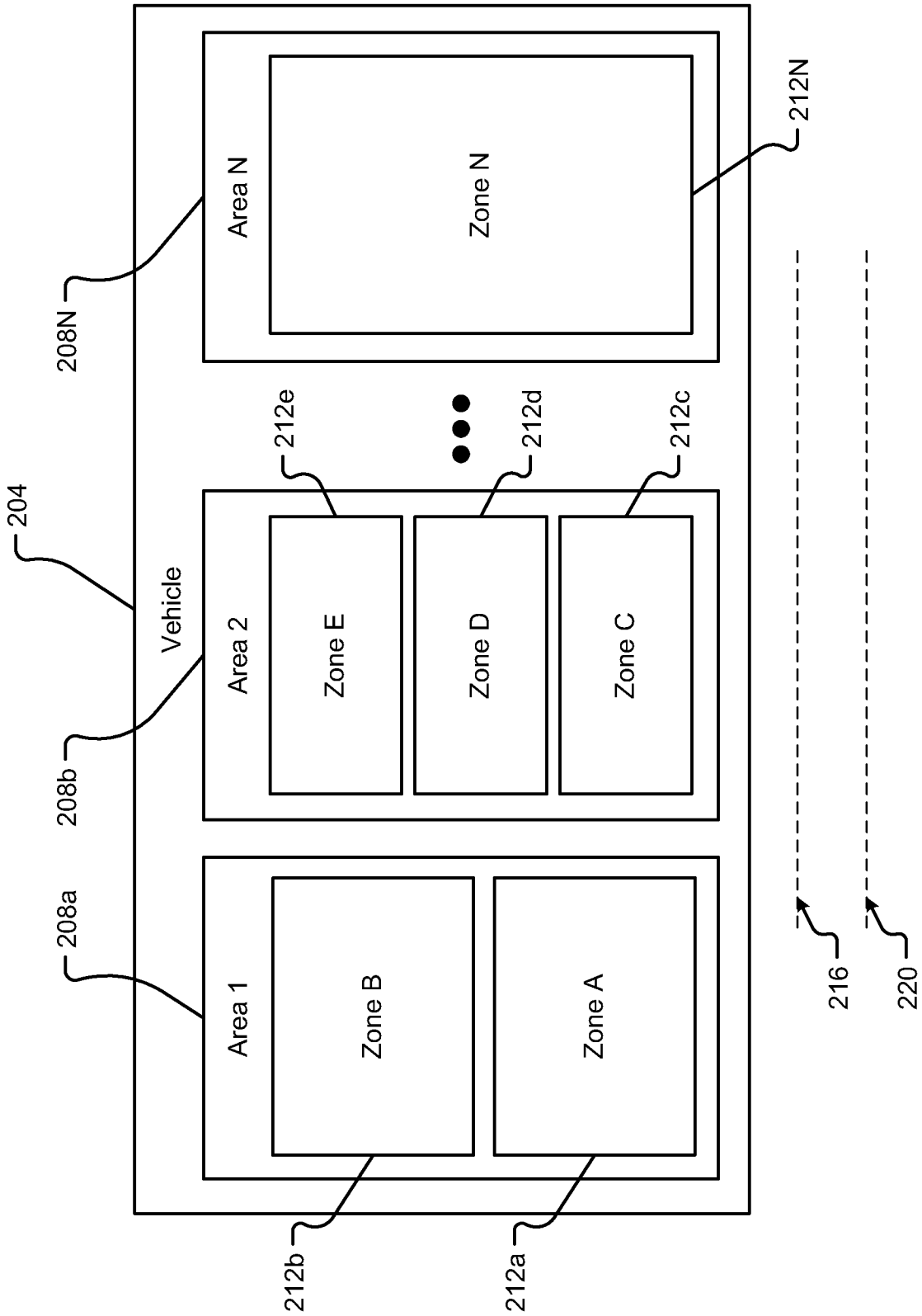


Fig. 2

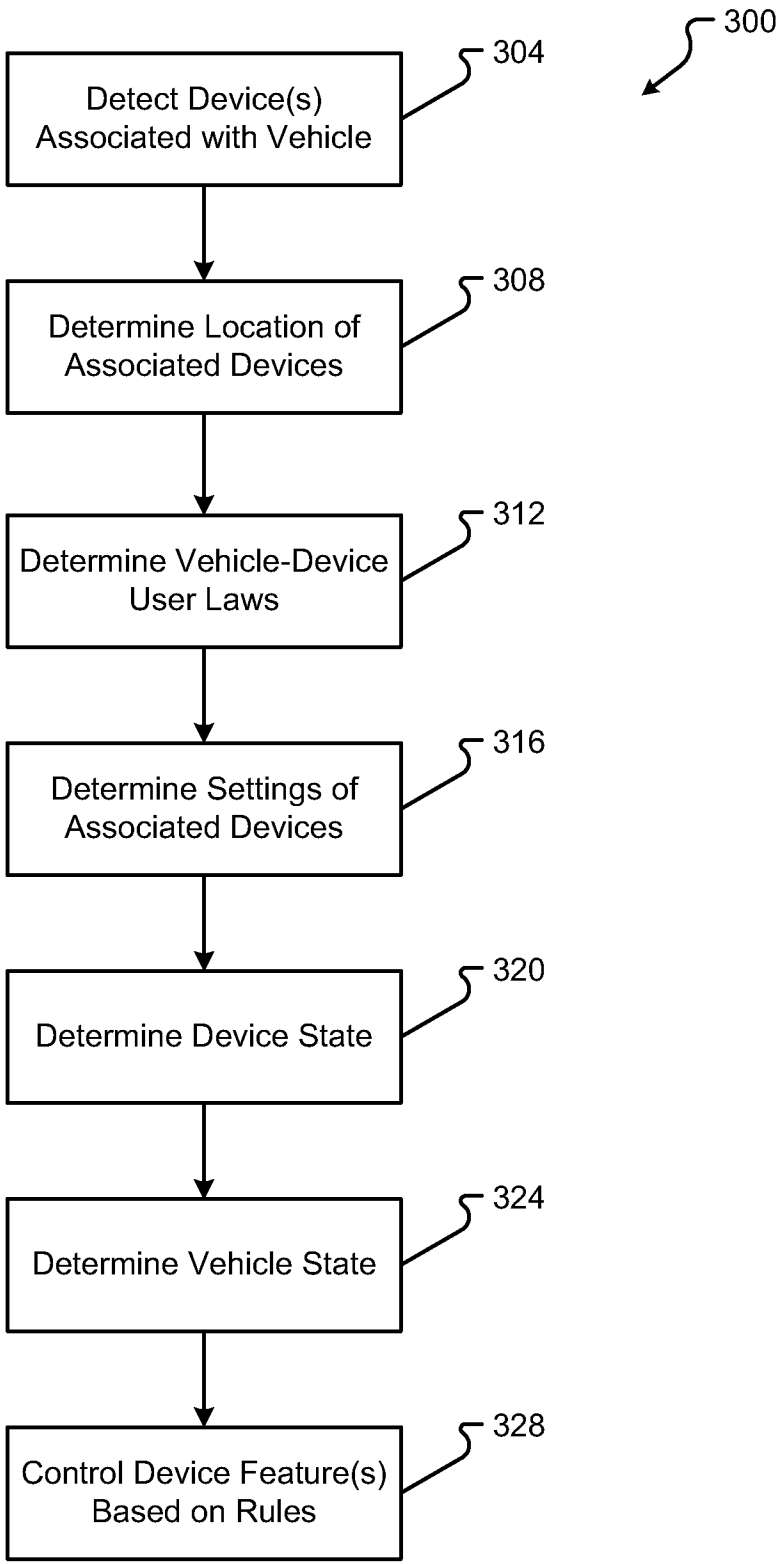


Fig. 3

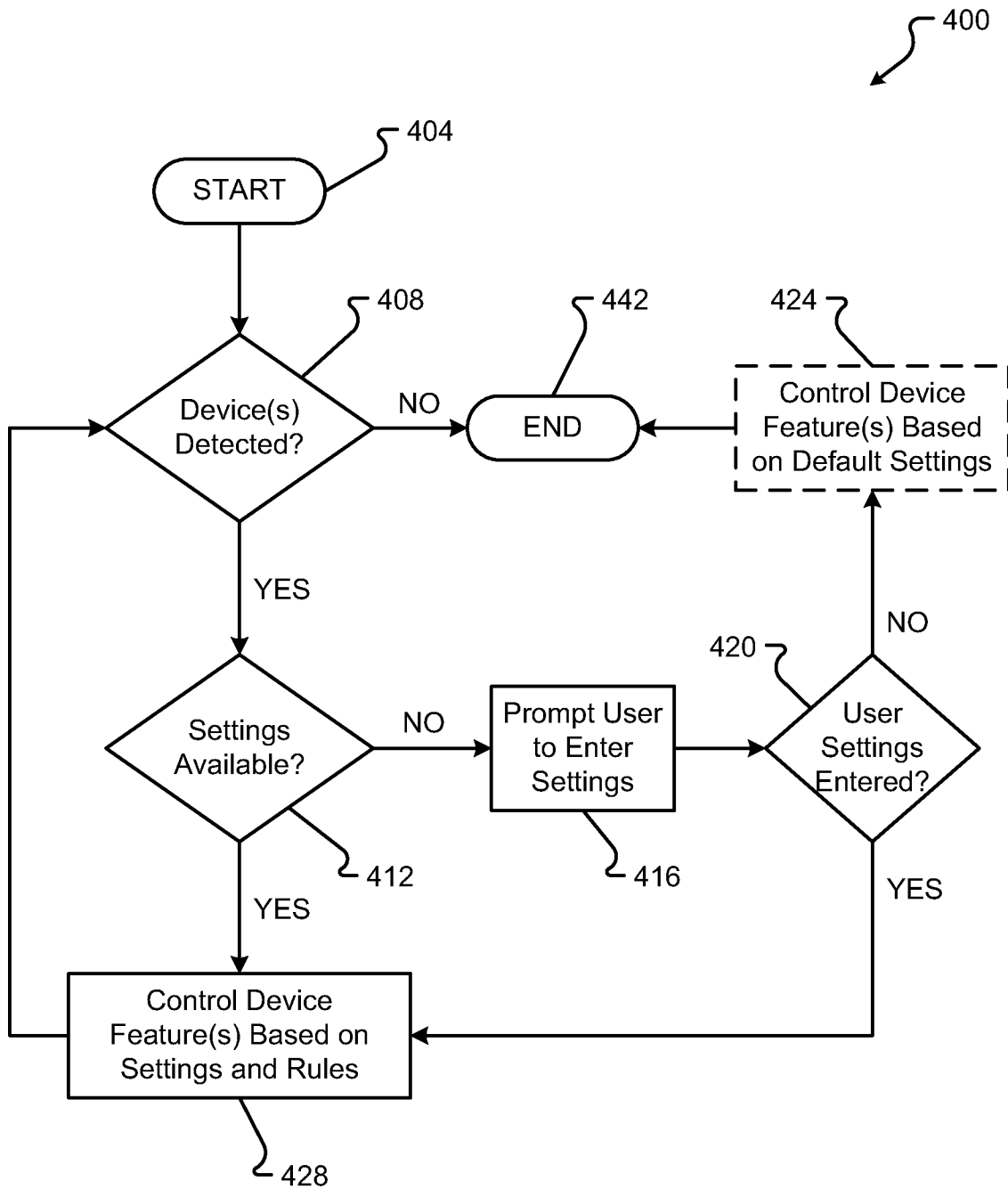


Fig. 4

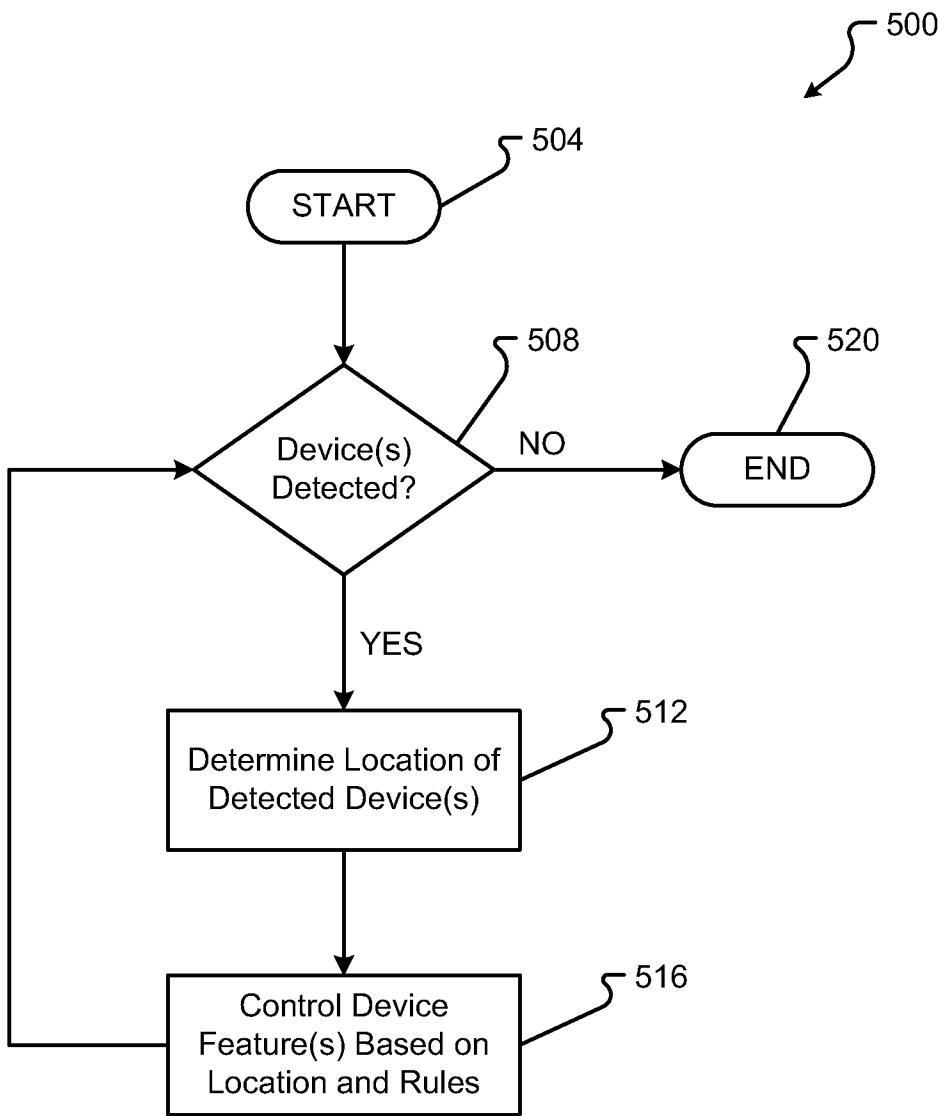


Fig. 5

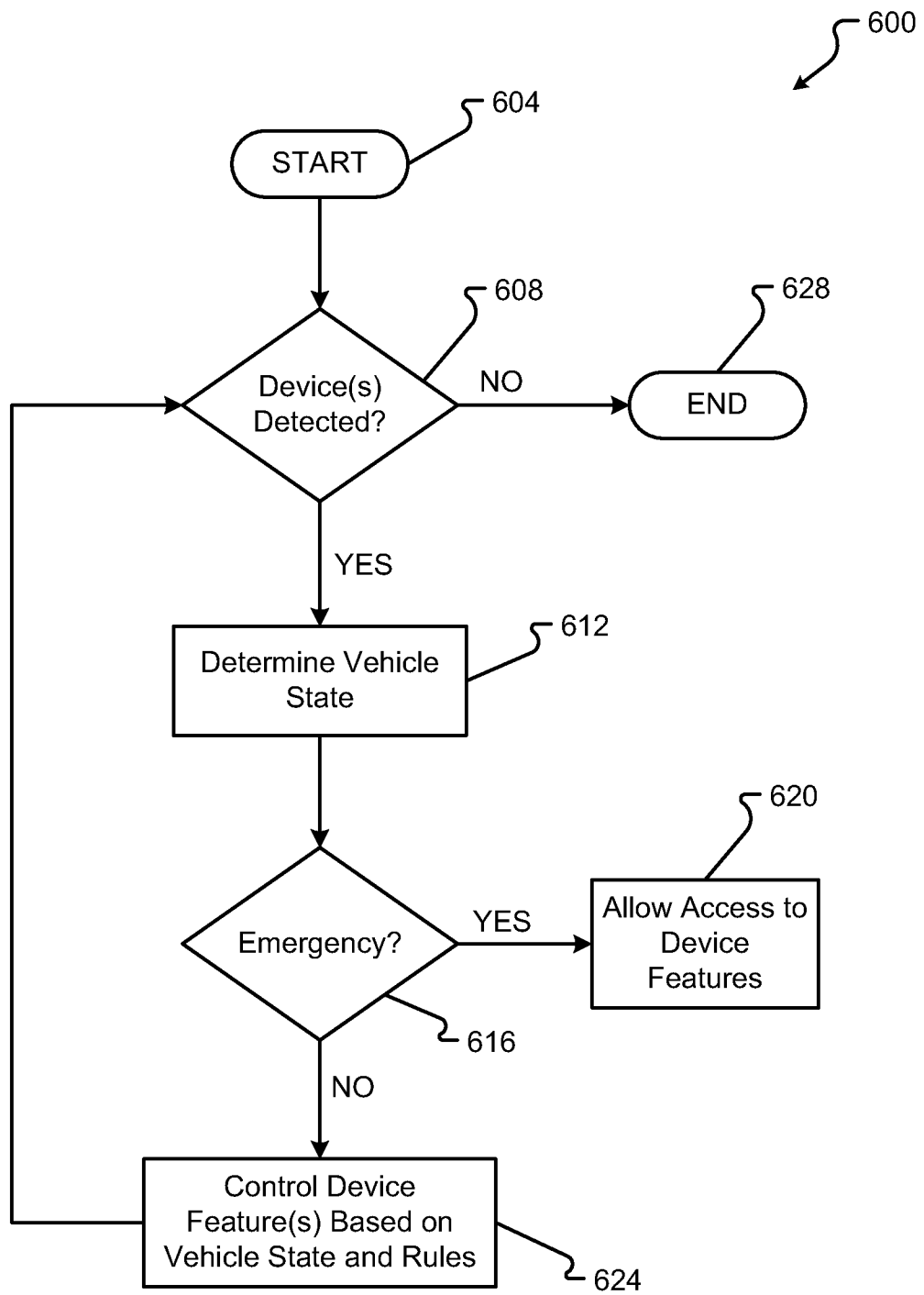


Fig. 6

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	6583-234-PROV
		Application Number	
Title of Invention	CONTROL OF DEVICE FEATURES BASED ON VEHICLE STATE		
<p>The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.</p>			

Secrecy Order 37 CFR 5.2

Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Applicant Information:

Applicant 1					<input type="button" value="Remove"/>
Applicant Authority <input checked="" type="radio"/> Inventor		<input type="radio"/> Legal Representative under 35 U.S.C. 117		<input type="radio"/> Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Christopher	P.	Ricci		
Residence Information (Select One) <input checked="" type="radio"/> US Residency <input type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
City	Saratoga	State/Province	CA	Country of Residence i	US
Citizenship under 37 CFR 1.41(b) i		US			
Mailing Address of Applicant:					
Address 1	20650 4th Street, Unit 2				
Address 2					
City	Saratoga	State/Province	CA		
Postal Code	95070	Countryⁱ	US		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.					<input type="button" value="Add"/>

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).			
<input type="checkbox"/> An Address is being provided for the correspondence Information of this application.			
Customer Number	22442		
Email Address	srlaw@sheridanross.com	<input type="button" value="Add Email"/>	<input type="button" value="Remove Email"/>

Application Information:

Title of the Invention	CONTROL OF DEVICE FEATURES BASED ON VEHICLE STATE		
Attorney Docket Number	6583-234-PROV	Small Entity Status Claimed <input type="checkbox"/>	
Application Type	Provisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	6	Suggested Figure for Publication (if any)	

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6583-234-PROV
	Application Number	
Title of Invention	CONTROL OF DEVICE FEATURES BASED ON VEHICLE STATE	

Publication Information:

<input type="checkbox"/>	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
<input type="checkbox"/>	Request Not to Publish. I hereby request that the attached application not be published under 35 U.S. C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.			
Please Select One:	<input checked="" type="radio"/> Customer Number	<input type="radio"/> US Patent Practitioner	<input type="radio"/> Limited Recognition (37 CFR 11.9)
Customer Number	22442		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.			
Prior Application Status			Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			Add

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).			
			Remove
Application Number	Country ⁱ	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			<input checked="" type="radio"/> Yes <input type="radio"/> No
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			Add

Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.	
Assignee 1	Remove

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6583-234-PROV
	Application Number	
Title of Invention	CONTROL OF DEVICE FEATURES BASED ON VEHICLE STATE	

If the Assignee is an Organization check here. <input checked="" type="checkbox"/>			
Organization Name	Flextronics AP, LLC		
Mailing Address Information:			
Address 1	847 Gibraltar Drive, Building 5		
Address 2			
City	Milpitas	State/Province	CA
Country i	US	Postal Code	95035
Phone Number		Fax Number	
Email Address			
Additional Assignee Data may be generated within this form by selecting the Add button.			<input type="button" value="Add"/>

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.					
Signature	/Thaine Lennox-Gentle/			Date (YYYY-MM-DD)	2012-05-30
First Name	Thaine	Last Name	Lennox-Gentle	Registration Number	65260

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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Provisional Application for Patent Cover Sheet

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c)

Inventor(s)

Inventor 1

Remove

Given Name	Middle Name	Family Name	City	State	Country
Christopher	P.	Ricci	Saratoga	CA	US

All Inventors Must Be Listed – Additional Inventor Information blocks may be generated within this form by selecting the **Add** button.

Add

Title of Invention

CONTROL OF DEVICE FEATURES BASED ON VEHICLE STATE

Attorney Docket Number (if applicable)

6583-234-PROV

Correspondence Address

Direct all correspondence to (select one):

The address corresponding to Customer Number

Firm or Individual Name

Customer Number

22442

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

No.

Yes, the name of the U.S. Government agency and the Government contract number are:

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

Entity Status

Applicant claims small entity status under 37 CFR 1.27

- Yes, applicant qualifies for small entity status under 37 CFR 1.27
 No

Warning

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

Signature

Please see 37 CFR 1.4(d) for the form of the signature.

Signature	/Thaine Lennox-Gentle/			Date (YYYY-MM-DD)	2012-05-30
First Name	Thaine	Last Name	Lennox-Gentle	Registration Number (If appropriate)	65260

This collection of information is required by 37 CFR 1.51. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **This form can only be used when in conjunction with EFS-Web. If this form is mailed to the USPTO, it may cause delays in handling the provisional application.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that : (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
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6. A record in this system of records may be disclosed, as a routine use, to a n other federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	CONTROL OF DEVICE FEATURES BASED ON VEHICLE STATE
First Named Inventor/Applicant Name:	Christopher P. Ricci
Filer:	Thaine Lennox-Gentle/Leslie Roberts
Attorney Docket Number:	6583-234-PROV

Filed as Large Entity

Provisional Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Provisional application filing	1005	1	250	250

Pages:

Claims:

Miscellaneous-Filing:

Petition:

Patent-Appeals-and-Interference:

Post-Allowance-and-Post-Issuance:

Extension-of-Time:

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				250

Electronic Acknowledgement Receipt

EFS ID:	12894645
Application Number:	61653264
International Application Number:	
Confirmation Number:	9537
Title of Invention:	CONTROL OF DEVICE FEATURES BASED ON VEHICLE STATE
First Named Inventor/Applicant Name:	Christopher P. Ricci
Customer Number:	22442
Filer:	Thaine Lennox-Gentle/Leslie Roberts
Filer Authorized By:	Thaine Lennox-Gentle
Attorney Docket Number:	6583-234-PROV
Receipt Date:	30-MAY-2012
Filing Date:	
Time Stamp:	17:47:01
Application Type:	Provisional

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$250
RAM confirmation Number	6809
Deposit Account	191970
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

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Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		PATENT_APPLICATION.pdf	176788 04bcd912cee360dbf70e5771d8e4ba89ac07b030	yes	33
Multipart Description/PDF files in .zip description					
	Document Description		Start		End
	Specification		1		27
	Claims		28		32
	Abstract		33		33
Warnings:					
Information:					
2	Drawings-only black and white line drawings	FIGS.pdf	30373 3616fe139342ef8da260c6cc7c17e83c4974c7b	no	6
Warnings:					
Information:					
3	Application Data Sheet	ADS.pdf	1424965 4ee9b2f49e928cedbb10168914b9c38d7aea2ef2	no	4
Warnings:					
Information:					
4	Provisional Cover Sheet (SB16)	PROVISIONAL_COVER_SHEET.pdf	2071267 580fa482f37f4476b0e41d1b700961c75038422d	no	3
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	29811 63d6ce1da7ded0e8074d473d1ce4fe91fc0710e9	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			3733204		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 6 columns: APPLICATION NUMBER, FILING or 371(c) DATE, GRP ART UNIT, FIL FEE REC'D, ATTY,DOCKET.NO, TOT CLAIMS, IND CLAIMS. Row 1: 61/653,264, 05/30/2012, 250, 6583-234-PROV

CONFIRMATION NO. 9537

22442
Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202

FILING RECEIPT



Date Mailed: 06/14/2012

Receipt is acknowledged of this provisional patent application. It will not be examined for patentability and will become abandoned not later than twelve months after its filing date. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Applicant(s)

Christopher P. Ricci, Saratoga, CA;

Power of Attorney:

Thaine Lennox-Gentle--65260

If Required, Foreign Filing License Granted: 06/13/2012

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is US 61/653,264

Projected Publication Date: None, application is not eligible for pre-grant publication

Non-Publication Request: No

Early Publication Request: No

Title

CONTROL OF DEVICE FEATURES BASED ON VEHICLE STATE

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process simplifies the filing of patent applications on the same invention in member countries, but does not result in a grant of "an international

patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

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Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

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