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(54) VEHICLE DASHBOARD SAFETY FEATURES

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(57) ABSTRACT

A vehicle includes: a dashboard with load sensors and airbag(s), a seat, processor(s) configured to: (a) detect load on the dashboard, (b) generate a display based on (a), (c) count time elapsed since (b), (d) activate a vibrating motor of the seat based on (a) and (c), (e) count time elapsed since (d), (f) disable the airbag(s) based on (a) and (e).

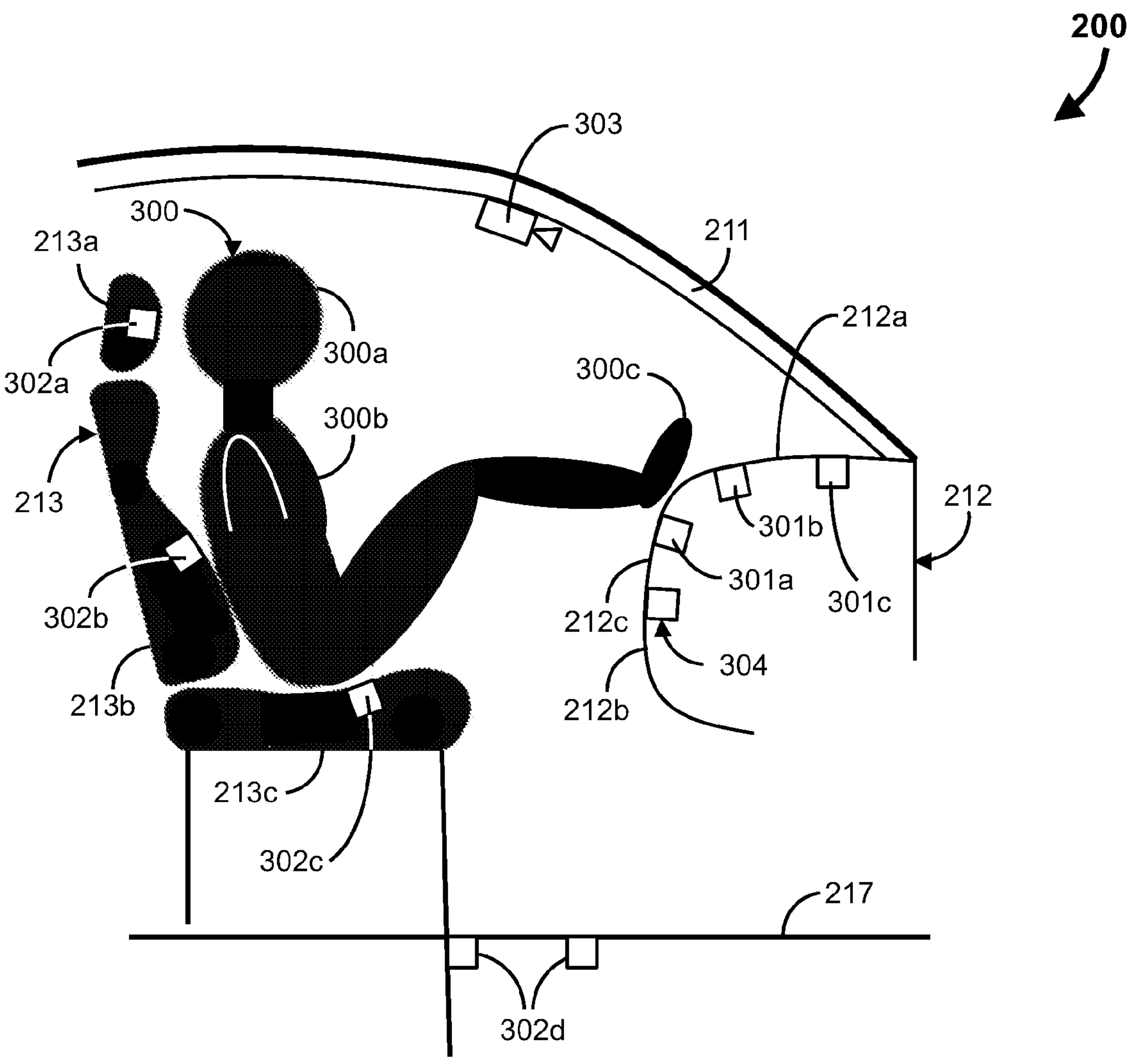


FIG. 1

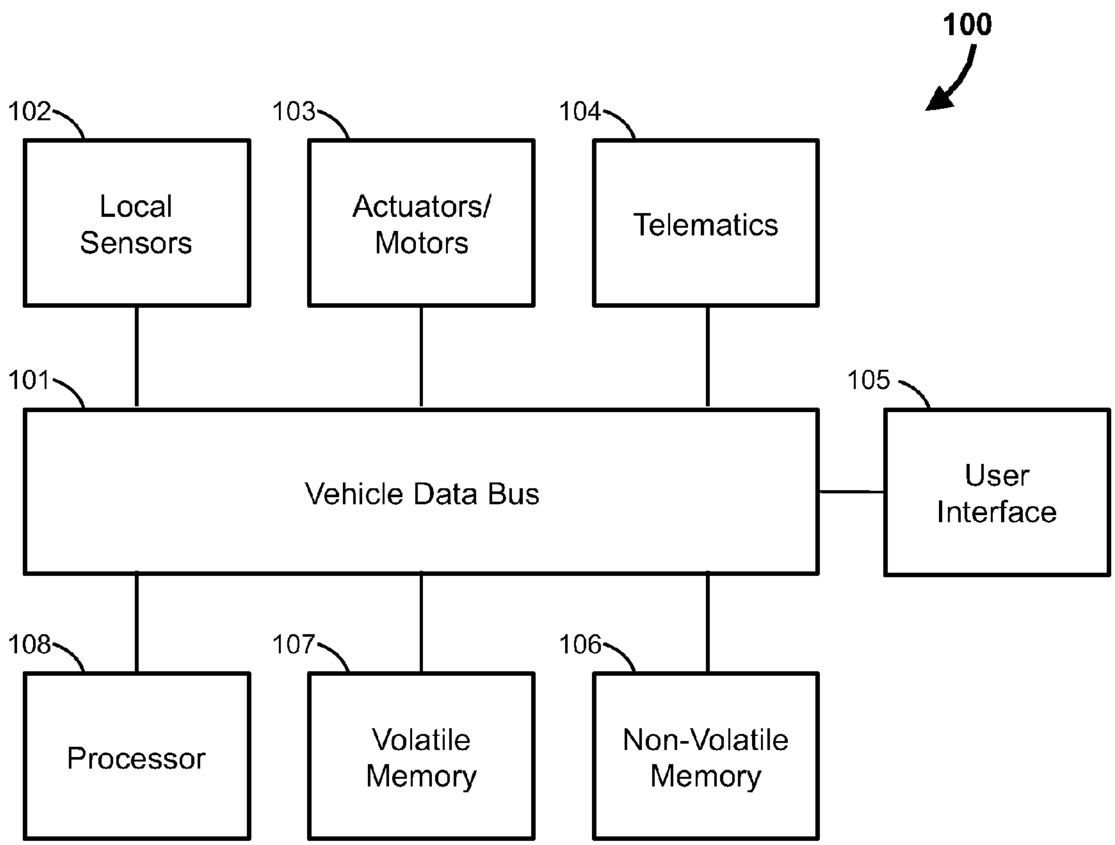

100
102
Local Sensors
103
Actuators/ Motors
104
Telematics
101
Vehicle Data Bus
105
User Interface
108
Processor
107
Volatile Memory
106
Non-Volatile Memory

FIG. 2

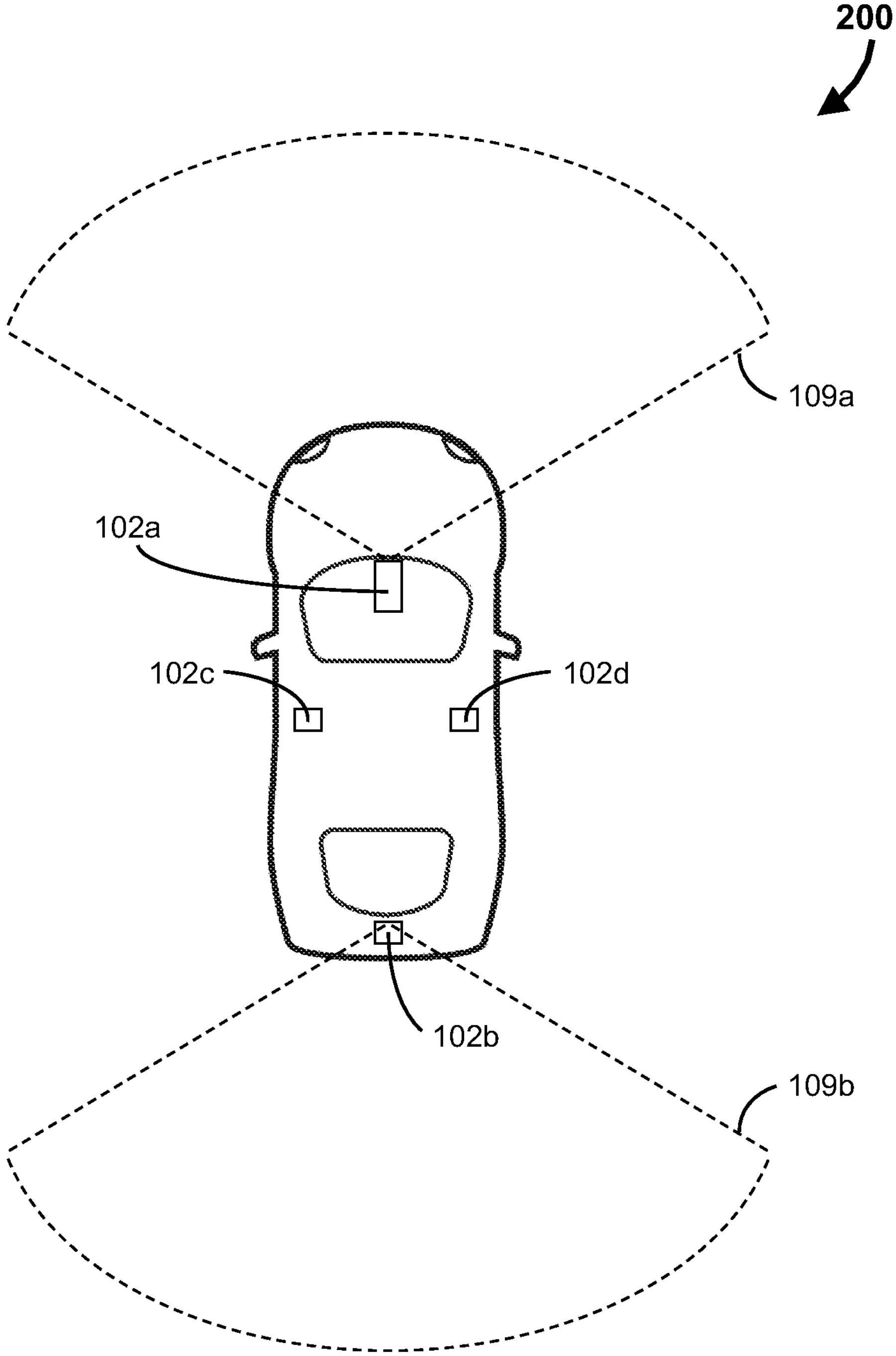


FIG. 3

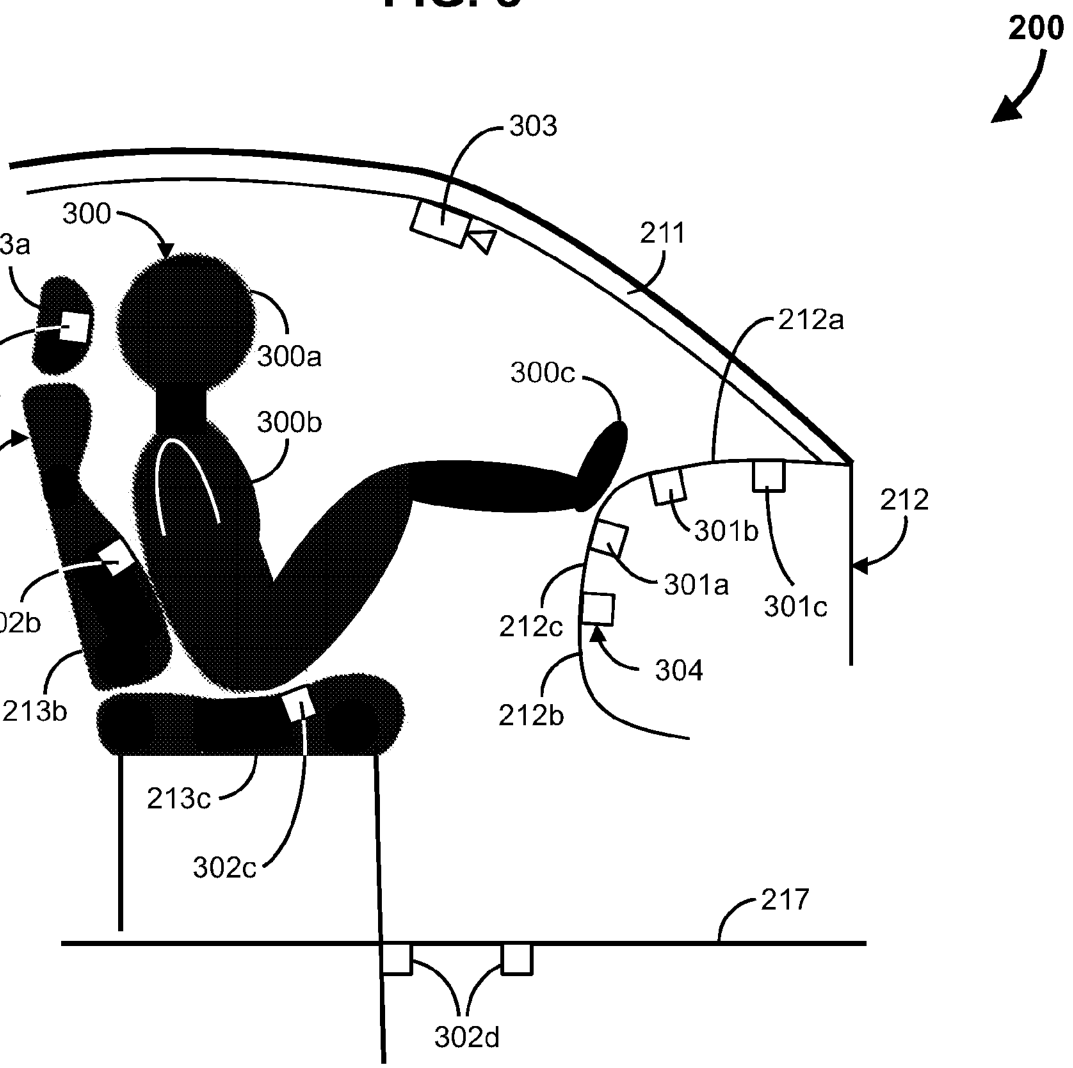

200
303
300
213a
211
300a
212a
302a
300c
300b
213
212
301b
301a
301c
302b
212c
304
213b
212b
213c
302c
217
302d

FIG. 4

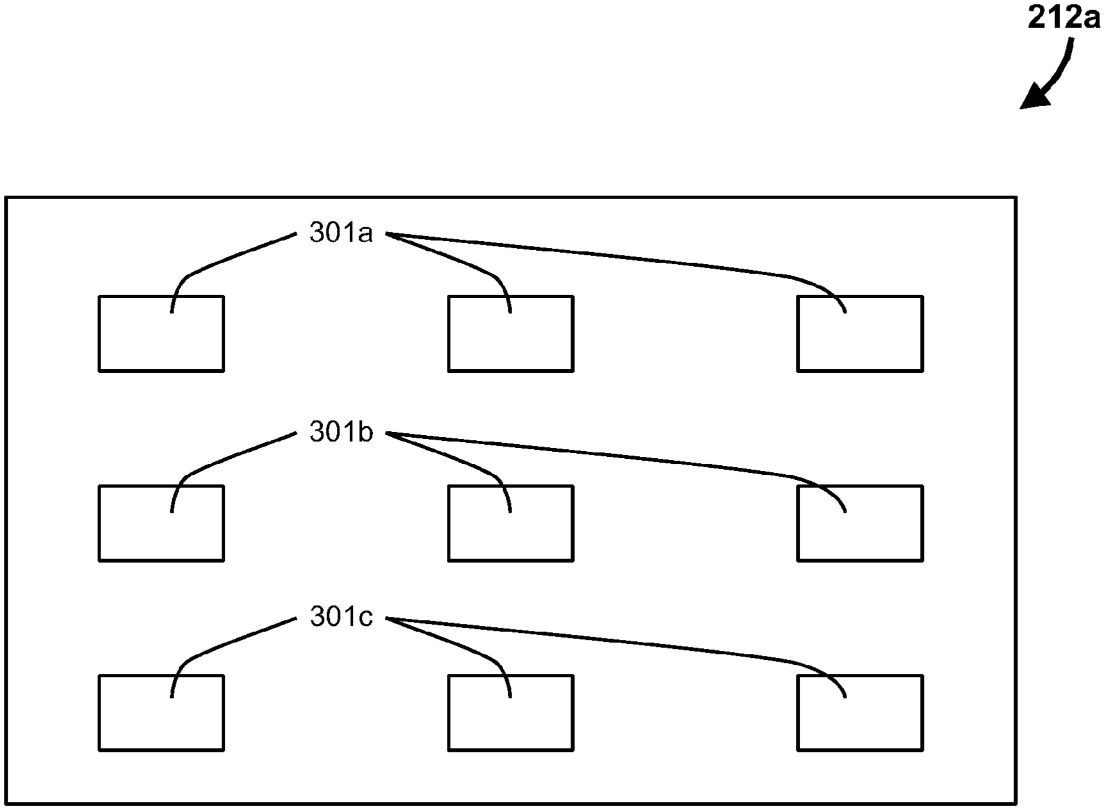
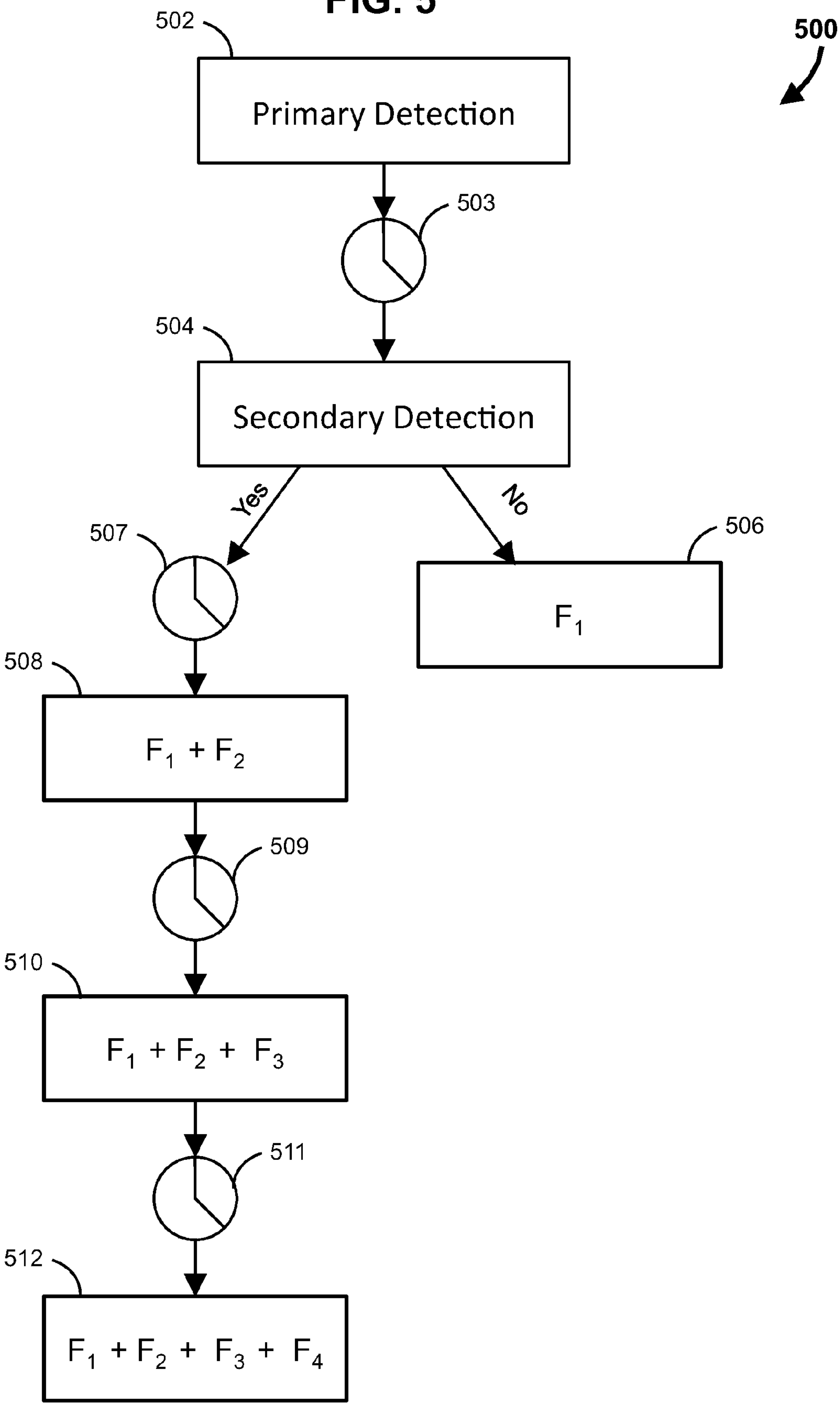


FIG. 5


500
502
Primary Detection
503
504
Secondary Detection
Yes
No
507
506
F1
508
F1 + F2
509
510
F1 + F2 + F3
511
512
F1 + F2 + F3 + F4

VEHICLE DASHBOARD SAFETY FEATURES

TECHNICAL FIELD

[0001] This disclosure relates to vehicle safety systems.

BACKGROUND

[0002] Passengers occasionally rest objects on the dashboard. During an unexpected event, such as a crash, the rested objects may become projectiles and pose a safety hazard. If the rested objects are the passenger's feet, and the passenger airbags deploy, then the passenger will be injured. A solution is needed to discourage passengers from resting objects on the dashboard.

SUMMARY

[0003] A vehicle consistent with the present disclosure includes: a dashboard with load sensors and airbag(s), a seat, processor(s) configured to: (a) detect load on the dashboard, (b) generate a display based on (a), (c) count time elapsed since (b), (d) activate a vibrating motor of the seat based on (a) and (c), (e) count time elapsed since (d), (f) disable the airbag(s) based on (a) and (e).

BRIEF DESCRIPTION OF THE DRAWINGS

[0004] For a better understanding of the invention, reference may be made to embodiments shown in the following drawings. The components in the drawings are not necessarily to scale and related elements may be omitted, or in some instances proportions may have been exaggerated, so as to emphasize and clearly illustrate the novel features described herein. In addition, system components can be variously arranged, as known in the art. Further, in the drawings, like reference numerals designate corresponding parts throughout the several views.

[0005] FIG. **1** is a block diagram of a vehicle computing system.

[0006] FIG. **2** is a schematic of a vehicle including the vehicle computing system.

[0007] FIG. **3** is a cross sectional side view of the vehicle including a dashboard and a seat.

[0008] FIG. **4** is a cross sectional top view of a top panel of the dashboard.

[0009] FIG. **5** is a block diagram of a method performed by the vehicle.

DETAILED DESCRIPTION OF EXAMPLE EMBODIMENTS

[0010] While the invention may be embodied in various forms, there are shown in the drawings, and will hereinafter be described, some exemplary and non-limiting embodiments, with the understanding that the present disclosure is to be considered an exemplification of the invention and is not intended to limit the invention to the specific embodiments illustrated.

[0011] In this application, the use of the disjunctive is intended to include the conjunctive. The use of definite or indefinite articles is not intended to indicate cardinality. In particular, a reference to "the" object or "a" and "an" object is intended to denote also one of a possible plurality of such objects. Further, the conjunction "or" may be used to convey features that are simultaneously present, as one option, and mutually exclusive alternatives as another option. In other words, the conjunction "or" should be understood to include "and/or" as one option and "either/or" as another option.

[0012] FIG. **1** shows a computing system **100** of an example vehicle **200**. The vehicle **200** is also referred to as a first vehicle **200**. The vehicle **200** includes a motor, a battery, at least one wheel driven by the motor, and a steering system configured to turn the at least one wheel about an axis. Suitable vehicles are also described, for example, in U.S. patent application Ser. No. 14/991,496 to Miller et al. ("Miller") and U.S. Pat. No. 8,180,547 to Prasad et al. ("Prasad"), both of which are hereby incorporated by reference in their entireties. The computing system **100** enables automatic control of mechanical systems within the device. It also enables communication with external devices. The computing system **100** includes a data bus **101**, one or more processors **108**, volatile memory **107**, non-volatile memory **106**, user interfaces **105**, a telematics unit **104**, actuators and motors **103**, and local sensors **102**.

[0013] The data bus **101** traffics electronic signals or data between the electronic components. The processor **108** performs operations on the electronic signals or data to produce modified electronic signals or data. The processor **108** may represent multiple processors **108** working sequentially or in parallel. The volatile memory **107** stores data for immediate recall by the processor **108**. The non-volatile memory **106** stores data for recall to the volatile memory **107** and/or the processor **108**. The non-volatile memory **106** includes a range of non-volatile memories including hard drives, SSDs, DVDs, Blu-Rays, etc. The user interface **105** includes displays, touch-screen displays, keyboards, buttons, and other devices that enable user interaction with the computing system. The telematics unit **104** enables both wired and wireless communication with external processors via Bluetooth, cellular data (e.g., 3G, LTE), USB, etc. The telematics unit **104** may be configured to broadcast signals at a certain frequency (e.g., one type of vehicle to vehicle transmission at 1 kHz or 200 kHz, depending on calculations described below).

[0014] The actuators/motors **103** produce physical results. Examples of actuators/motors include fuel injectors, windshield wipers, brake light circuits, transmissions, airbags, engines, power train motors, steering, seat vibration motors, airbags, etc. The airbags may have a disabled state and an enabled state. When the airbags are in the disabled state, the airbags cannot deploy. When the airbags are in the enabled state, the airbags will deploy in response to signals from the processors. The local sensors **102** transmit digital readings or measurements to the processor **108**. Examples of suitable sensors include temperature sensors, rotation sensors, seatbelt sensors, speed sensors, seatbelt sensors, load sensors, cameras, lidar sensors, radar sensors, etc. It should be appreciated that the various connected components of FIG. **1** may include separate or dedicated processors and memory. Further detail of the structure and operations of the computing system **100** is described, for example, in Miller and/or Prasad.

[0015] FIG. **2** generally shows and illustrates the vehicle **200**, which includes the computing system **100**. Although not shown, the vehicle **200** is in operative wireless communication with a nomadic device, such as a mobile phone. Some of the local sensors **102** are mounted on the exterior of the vehicle **200**. Local sensor **102***a* may be an ultrasonic sensor, a lidar sensor, a camera, a video camera, and/or a microphone, etc. Local sensor **102***a* may be configured to detect objects leading the vehicle **200** as indicated by leading sensing range **109***a*. Local sensor **102***b* may be an ultrasonic sensor, a lidar sensor, a camera, a video camera, and/or a microphone, etc. Local sensor **102***b* may be configured to detect objects trailing the vehicle **200** as indicated by leading sensing range **109***b*. Left sensor **102***c* and right sensor **102***d* may be configured to perform the same functions for the left and right sides of the vehicle **200**. The vehicle **200** includes a host of other sensors **102** located in the vehicle interior or on the vehicle exterior. These sensors **102** may include any or all of the sensors disclosed in Prasad.

[0016] It should be appreciated that the vehicle **200** is configured to perform the methods and operations described below. In some cases, the vehicle **200** is configured to perform these functions via computer programs stored on the volatile and/or non-volatile memories of the computing system **100**. A processor is "configured to" perform a disclosed operation when the processor is in operative communication with memory storing a software program with code or instructions embodying the disclosed operation. Further description of how the processor, memories, and programs cooperate appears in Prasad. It should be appreciated that the nomadic device or an external server in operative communication with the vehicle **200** may perform some or all of the methods and operations discussed below.

[0017] According to various embodiments, the vehicle **200** includes some or all of the features of the vehicle **100***a* of Prasad. According to various embodiments, the computing system **100** includes some or all of the features of the VCCS 102 of FIG. 2 of Prasad. According to various embodiments, the vehicle **200** is in communication with some or all of the devices shown in FIG. 1 of Prasad, including the nomadic device 110, the communication tower 116, the telecom network 118, the Internet 120, and the data processing center 122.

[0018] The term "loaded vehicle," when used in the claims, is hereby defined to mean: "a vehicle including: a motor, a plurality of wheels, a power source, and a steering system; wherein the motor transmits torque to at least one of the plurality of wheels, thereby driving the at least one of the plurality of wheels; wherein the power source supplies energy to the motor; and wherein the steering system is configured to steer at least one of the plurality of wheels." The term "equipped electric vehicle," when used in the claims, is hereby defined to mean "a vehicle including: a battery, a plurality of wheels, a motor, a steering system; wherein the motor transmits torque to at least one of the plurality of wheels, thereby driving the at least one of the plurality of wheels; wherein the battery is rechargeable and is configured to supply electric energy to the motor, thereby driving the motor; and wherein the steering system is configured to steer at least one of the plurality of wheels."

[0019] FIG. **3** generally shows and illustrates front passenger side of the vehicle **200**. A person **300** with a head **300***a*, body **300***b*, and feet **300***c* is sitting on a seat **213** that includes a headrest **213***a*, a back or back rest **213***b*, and a bottom **213***c*. The bottom **213***c* is connected to a floor **217** of the vehicle **200** via suitable supports. The vehicle **200** includes a dashboard **212** below the windshield **211** and transversely extending (i.e., from the passenger side to the driver side) across the vehicle **200** under the windshield **212**. The dashboard includes user interfaces **105** such as climate control, gauges, touchscreen displays, switches, lights, etc. The dashboard **212** includes a passenger side airbag **304** and a driver side airbag (not shown). It should be appreciated that the airbags (e.g., passenger side airbag **304**) may represent a plurality of passenger side airbags positioned around the passenger. The dashboard **212** includes a top panel **212***a* joined to a side panel **212***b* along an interface **212***c*. The feet **300***c* are exerting a horizontal load on the dashboard **212**. The dashboard **212** is purely exemplary and may be defined by more panels or a single panel.

[0020] The seat **213** includes seat load sensors **302***a*, **302***b*, and **302***c*. The dashboard includes dashboard load sensors **301***a*, **301***b*, and **301***c*. The floor **217** includes floor load sensors **302***d*. A camera **303** is pointed at the dashboard **212**. The load sensors **301**, **302** and the camera **303** are local sensors **102** and are thus wired or wirelessly connected to the processor **108** as schematically shown in FIG. **1**.

[0021] FIG. **4** is a top view of the top panel **212***a*. As shown in FIGS. **3** and **4**, the top panel **212***a* may be configured to transmit mechanical load (e.g., weight) to a plurality of dashboard load sensors **301***a*, **301***b*, **301***c*. As shown in FIG. **3**, some of the load sensors (e.g., dashboard load sensors **301***b* and **301***c*) may be configured to sense a vertical mechanical load. A vertical mechanical load would occur when a passenger rested feet **300***c* or an object on top of the dashboard (e.g., above top panel **212***a*). Some of the sensors (e.g., dashboard load sensors **301***a*) may be configured to sense a horizontal mechanical load. A horizontal mechanical load would occur when a passenger pressed feet **300***c* against the dashboard, as shown in FIG. **3**.

[0022] As shown in FIG. **4**, the top panel **212***a* may include a plurality of rows and columns of load sensors **301***a*, **301***b*, **301***c*. It should be appreciated that additional load sensors **301** may be attached to side panel **212***b* and any other surface of the dashboard. It should be appreciated that floor load sensors **302***d* and/or seat load sensors **302***a*, **302***b*, **302***c* may be arranged in a plurality of rows and columns similar to dashboard load sensors **301***a*, **301***b*, **301***c*.

[0023] The load sensors **301**, **302** may be weight or mass sensors that apply a resistive-based design, a capacitance design, a force load cell design, a pressure-based design, or any other design capable of sensing weight and/or mass. According to various embodiments, the load sensors **301**, **302** are configured to transmit a voltage level to the processor **108** based on a degree of load. Suitable load sensors **301**, **302** are known in the art. It should be appreciated that when the disclosure and claims refer to "weight," the disclosure and claims also contemplate "mass." For example, a "weight sensor" should be understood to include be a "weight sensor" or a "mass sensor" and a system configured to "measure weight" should be understood to "measure weight" or "measure mass," etc.

[0024] FIG. **5** shows an example method **500** of controlling safety systems of the vehicle **200** based on readings from the load sensors **301**, **302** and the camera **303**. The vehicle is configured to perform the method **500**. As explained above, the vehicle includes software code (e.g., a safety program) resident on the volatile memory **107** and/or non-volatile memory **106**. The processor **108** is configured to execute the safety program and thereby perform the method **500**.

[0025] Each of the load sensors **301**, **302** is in operative communication with the processor **108** and configured to transmit signals to the processor **108**. The vehicle **200** is configured to detect or estimate mechanical load on various vehicle components based on the load sensors **301**, **302**. For example, the vehicle **200** may detect mechanical load on the seat bottom **213***c* based on load sensors **302***c*. The vehicle **200** may detect mechanical load on the back **213***b* based on load sensors **302***b*. The vehicle **200** may detect mechanical load on the dashboard **212** based on load sensors **301**.

[0026] According to various embodiments, the load sensors **301**, **302** are two-dimensional load sensors and are thus capable of reporting load in a horizontal direction and a vertical direction. According to various embodiments, the load sensors **301**, **302** are one-dimensional load sensors. In these embodiments, the vehicle **200** may be configured to estimate two-dimensional load on various objects (e.g., the seat **213** or the dashboard **212**) based on (a) the one-dimensional measurements and (b) the known positions of the load sensors (e.g., load sensed by load sensor **301***c* is only vertical, load sensed by load sensor **301***a* is only horizontal, load sensed by load sensor **302***b* has a vertical load component and a horizontal load component).

[0027] As stated above, various components of the vehicle **200** include multiple load sensors. For example, as shown in FIG. **4**, and as previously discussed, the top panel **212***a* includes a plurality of rows and columns of load sensors **301***a*, **301***b*, **301***c*. According to various embodiments, the vehicle **200** is configured to compile or collect data from the load sensors (or select representative load sensors) and estimate a total or net load in one or both of the horizontal and vertical directions of each of the seat **213**, the dashboard **212**, and the floor **217**.

[0028] For example, the vehicle **200** may estimate a vertical mechanical load on the dashboard **212** and a horizontal mechanical load on the dashboard **212** based on load sensors **301***a*, **301***b*, and **301***c*. Similarly, the vehicle may estimate a vertical mechanical load on the seat **213** and a horizontal mechanical load on the seat **213** based on load sensors **302***a*, **302***b*, and **302***c*. The vehicle may estimate a vertical mechanical load on the floor **217** based on load sensors **302***d*.

[0029] To find the net load on the component (i.e., the seat **213**, the floor **217**, and the dashboard **212**), the vehicle **200** may sum the results of each load sensor (e.g., sum the vertical load component of sensors **301***b* and **301***c* to find the total vertical load on the dashboard **212**). Alternatively, and as stated above, the vehicle may select a single load sensor as representative and equate mechanical load on the object to the load sensed by the single load sensor. Alternatively, the vehicle may apply various algorithms to estimate total mechanical load on an object based on signals from a plurality of load sensors.

[0030] Returning to FIG. **5**, the vehicle makes or renders a primary detection at block **502**. The primary detection may be rendered with reference to load determined by the load sensors **301** of the dashboard **212**. According to various embodiments, a primary detection occurs when horizontal load on the dashboard **212** exceeds a first predetermined threshold and/or vertical load on the dashboard **212** exceeds a second predetermined threshold.

[0031] The predetermined thresholds may be set an manufacturing. According to various embodiments, the vehicle **200** is configured to enable the user or passenger, via the user interface **105**, to set the predetermined thresholds. When doing so, the vehicle **200**, via the user interface **105**, instructs the user to remove all objects from (i.e., clean) the dashboard. The vehicle **200** then records the loading on the clean dashboard **212** and sets one or more baselines with reference to the recorded loading (e.g., sets a horizontal loading baseline and a vertical loading baseline). When the measured or detected loads exceed one or more of the baselines by a user-adjustable predetermined degree (e.g., 10% or 2 lbs), then the vehicle **200** renders the primary detection.

[0032] Upon rendering the primary detection at block **502**, the vehicle waits a first predetermined amount of time **503** and then repeats the primary detection. If the primary detection is no longer present (i.e., if the predetermined threshold(s) are not exceeded), then the process ends. The first predetermined amount of time **503** compensates for a situation where a person only momentarily rests a foot, or other object, on the dashboard.

[0033] If the primary detection is still present after the first predetermined amount of time **503**, the vehicle **200** proceeds to block **504**. At block **504**, the vehicle **200** makes or renders a secondary detection. The secondary detection confirms the validity or accuracy of the primary detection. The secondary detection can be performed according to a range methods (discussed below). The vehicle **200** may be configured to execute one, some, or all of these methods.

[0034] One method of secondary detection is via the camera **303**. At block **504**, the camera **303** records one or more new images of the top panel **212***a* of the dashboard **212**. The camera **303** transmits these new images to the processor **303**. The processor **303** compares the new images to a previously recorded clean image of the top panel **212***a*. The previously recorded clean image is a baseline image of the top panel **212***a* without any objects located thereon.

[0035] The clean image may be preloaded on the vehicle **200** at manufacturing. According to various embodiments, the vehicle **200** is configured to enable the user, via the user interface **105**, to cause the camera **303** to record images, and then enable the user to select one of the recorded images as the clean image. This process is useful, for example, if the user permanently affixes an object to the dashboard.

[0036] The processor **303**, via suitable programming compares the new images to the clean image. According to various embodiments, the processor **303** blurs or combines the new images into a single combined image (e.g., by averaging the pixel values of each of the images). The processor **303** then compares the combined image to the clean image. More specifically, the processor **303** aligns the combined image with the clean image (to account for camera offset or vibration). The processor **303** then compares pixel values of the combined image with the clean image. If a predetermined reference number of pixels of the combined image differ by a predetermined degree from the clean image, then the vehicle **200** renders the secondary detection at block **504**. The predetermined reference number and the predetermined degree may be user adjustable.

[0037] Some pixel variation between the combined image and the clean image is expected due to light incident on the top panel **212***a* via the windshield **211**. According to various embodiments, the vehicle **200** includes multiple clean images and associates each clean image with a certain time of day and/or weather condition. The vehicle **200** may apply a lookup table that associates a first range of light conditions (e.g., 50 to 55 lumens) with a first clean image, a second range of light conditions (e.g., 56 to 60 lumens) with a second clean image, etc. The light conditions may be measured by a suitable light sensor installed on the dashboard (e.g., a sensor that automatically activates the headlights during darkness).

[0038] Alternatively or in addition to the above pixel comparison process, the vehicle **200** may apply image or pattern recognition software to the new images. The vehicle **200**, by executing the recognition software, recognizes foreign objects on the dashboard **212**. When a foreign object is recognized on the dashboard **212**, the vehicle **200** renders the secondary detection at block **504**.

[0039] It should be appreciated that the secondary detection may be rendered at block **504** without reference to the camera **303** (e.g., in cases where the vehicle **200** does not include the camera **303**). In such cases, the secondary detection may include one or more of the following: (a) detecting that a person presently occupies the seat **213** with reference to load sensors **302** and/or a seatbelt sensor; (b) detecting that a person occupying the seat **213** has redistributed his or her weight; (c) detecting that horizontal load on the seat **213** has increased over a user-adjustable predetermined horizontal loading value.

[0040] The vehicle **200** may be configured to perform (b) by tracking a maximum vertical load during a trip (or during predetermined time span within the trip) on the seat **213** and the floor **217**. The vehicle **200** sets the sum of the vertical load on the seat **213** and the floor **217** as the passenger's weight. If the combined vertical load on the seat **213** and the floor **217** decreases during the trip (or the predetermined time span) by a predetermined load degree (e.g., more than 5% or 4 lbs), then the vehicle **200** may assume that the missing load was transferred to the dashboard **212** and thus render the secondary detection at block **504**.

[0041] The vehicle **200** may be configured to perform (c) finding total or net horizontal load on the seat **213**. When the detected horizontal load on the seat **213** increases over a predetermined value, the vehicle **200** assumes that the user has applied an equal and opposite horizontal load against the dashboard **212**. The vehicle **200** thus renders the secondary detection.

[0042] It should be appreciated that any or all of the above secondary detection methods may be combined. It should be appreciated that any or all of the above secondary detection methods may be substituted for the primary detection at block **502**. It should be appreciated that the primary detection at block **502** may be part of the secondary detection at block **504**.

[0043] If, at block **504**, the vehicle fails to render the secondary detection, then the vehicle proceeds to block **506**, where the vehicle **200** implements a first function. If, at block **504**, the vehicle **200** renders the secondary detection, then the vehicle waits a second predetermined amount of time **507**. After the second predetermined amount of time **507**, if the secondary detection of block **504** and/or the primary detection of block **502** are still present, then the vehicle **200** implements a second function at block **508**.

[0044] After implementing the second function at block **508**, the vehicle **200** waits a third predetermined amount of time **509**. After the third predetermined amount of time **509**, if the secondary detection of block **504** and/or the primary detection of block **502** are still present, then the vehicle **200** implements a third function at block **510**.

[0045] After implementing the third function at block **510**, the vehicle waits a fourth predetermined amount of time **511**. After the fourth predetermined amount of time **511**, if the secondary detection of block **504** and/or the primary detection of block **502** are still present, then the vehicle **200** implements a fourth function at block **512**.

[0046] It should be appreciated that the predetermined times **503**, **507**, **509**, **511** are optional and some or all of the predetermined times **503**, **507**, **509**, **511** may be absent from the method **500**. It should be appreciated that both of the primary detection and the secondary detection are continuously re-executed during all stages of the method **500**.

[0047] It should be appreciated that the method **500** may terminate whenever the primary detection is no longer present (i.e., measured or sensed). For example, the method **500** may immediately terminate during the third predetermined amount of time **509**, if the loads detected at load sensors **301** fail to satisfy the one or more thresholds (i.e., the primary detection becomes negative during one of the re-executions of the primary detection). It should further be appreciated that the method **500** may immediately skip or proceed to the first function of block **506** whenever the secondary detection is no longer present, but the primary detection is still present. For example, the method **500** may immediately skip from block **510** to block **506** if the secondary detection becomes negative during one of the re-executions of the secondary detection. It should be appreciated that the method **500**, upon reaching block **512**, remains at block **512** until either terminating with reference to the primary detection or skipping to block **506** with reference to the secondary detection. It should be appreciated that skipping from blocks **508**, **510**, or **512** to block **506** causes the vehicle **200** to end functions (e.g., the second function, the third function, and the fourth function) other than the first function.

[0048] According to various embodiments, each function causes the vehicle **200** to perform some or all of the following: activating a warning light on the user interface **105**, issuing warning text or video via the user interface **105**, generating a sound or noise via the user interface **105**, vibrating some or all of the seat **213**, and disabling the front passenger airbag **304**. As stated above, the front passenger airbag **304** may represent a plurality of airbags positioned around the seat **213**. The disabling of the front passenger airbag **304** may include disabling all, or only some of the plurality of airbags. It should be appreciated that each function may include a different set of the above features.

[0049] As shown in FIG. **5**, the functions may be cumulative over time. Put differently, block **508** may include the second function in addition to the first function of block **506**. Block **510** may include the first, second, and third functions. Block **512** may include the first, second, third, and fourth functions.

[0050] According to various embodiments, the first function is the activation of a warning light on the user interface **105**. The second function is the sound broadcast by speakers of the user interface **105**. The third function is the induced vibration of some or all of the seat **213**. The fourth function is the deactivation of the passenger airbag **304** accompanied by an activation of a supplementary warning light and/or supplementary text displayed on the user interface **105**.

1. A vehicle comprising:

a dashboard with load sensors and airbag(s), a seat, processor(s) configured to:

(a) detect load on the dashboard,

(b) disable the airbag(s) based on (a).

2. The vehicle of claim **1**, wherein the processor(s) are configured to:
perform (b) based on (a) by: determining whether the detected load exceeds predetermined load(s).

3. The vehicle of claim **1**, wherein some of the load sensors are arranged to detect load in a horizontal direction and some of the load sensors are arranged to detect load in a vertical direction.

4. The vehicle of claim **3**, wherein the processor(s) are configured to: perform (a) by: determining a horizontal load on the dashboard and a vertical load on the dashboard.

5. The vehicle of claim **4**, wherein the processor(s) are configured to:
compare the determined vertical load to a first threshold and compare the determined horizontal load to a second threshold;
perform (b) based on (a) by: determining that the determined vertical load exceeds the first threshold or the determined horizontal load exceeds the second threshold.

6. The vehicle of claim **1**, wherein the vehicle comprises a camera pointed at the dashboard and the processor(s) are configured to:
(c) determine presence of an object on the dashboard by processing images from the camera.

7. The vehicle of claim **6**, wherein the processor(s) are configured to:
perform (b) based on (a) and (c).

8. The vehicle of claim **7**, wherein the vehicle comprises a light sensor and the processor(s) are configured to: process the images from the camera based on an amount of light sensed by the light sensor.

9. The vehicle of claim **8**, wherein the processor(s) are configured to: process the images from the camera based on an amount of light sensed by the light sensor by processing the images with an algorithm selected based on the amount of light sensed by the light sensor.

10. The vehicle of claim **1** comprising a user interface and wherein the processor(s) are configured to:
(d) generate a display on the user interface based on (a),
(e) count time elapsed since (d),
perform (b) based on (a) and (e).

11. The vehicle of claim **1**, wherein the seat includes a motor and the processor(s) are configured to:
(f) activate the motor to vibrate the seat based on (a).

12. The vehicle of claim **11**, wherein the processor(s) are configured to:
(g) generate a display on the user interface based on (a),
(h) count time elapsed since (g),
perform (f) based on (a) and (h),
(i) count time elapsed since (f),
perform (b) based on (a) and (i).

13. A vehicle comprising:
a dashboard with load sensors and airbag(s), a seat, processor(s) configured to:
(a) detect load on the dashboard,
(b) generate a display based on (a),
(c) count time elapsed since (b),
(d) activate a seat motor to vibrate the seat based on (a) and (c),
(e) count time elapsed since (d),
(f) disable the airbag(s) based on (a) and (e).

14. A method comprising, via processor(s) of a vehicle including a dashboard with load sensors, a seat, and airbag (s):
(a) detecting load on the dashboard,
(b) disabling the airbag(s) based on (a).

15. The method of claim **14**, comprising:
performing (b) based on (a) by: determining whether the detected load exceeds predetermined load(s).

16. The method of claim **15**, comprising:
(c) determining presence of an object on the dashboard via a camera,
performing (b) based on (a) and (c).

17. The method of claim **16**, wherein the presence of the object on the dashboard is determined via image filtering software that relies on an amount of light detected by a light sensor of the vehicle.

18. The method of claim **14**, comprising:
(d) generating a display on a user interface of the vehicle based on (a),
(e) counting time elapsed since (d),
performing (b) based on (a) and (e).

19. The method of claim **18**, comprising:
vibrating the seat with a seat motor based on (a) and (e).

20. The method of claim **19**, comprising:
determining presence of an object on the dashboard via a camera based on (a).

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