An autonomous vehicle utilizing seating system to assist the vehicle driver when operating a vehicle in either autonomous drive mode or in manual drive mode, the system for this process is an autonomous driving computer system comprising input and output protocol data to assess the status of the vehicle’s environment. Accordingly the seating control system manages the user seating unit the seat unit comprises at least one adjustable arm to reattach and reposition a frame containing an air bag and method for a power control system to charge control console devices such as a smart cellphone utilizing telecommunication network systems and operating instruments comprising methodologies to monitor and to navigate the vehicle during the manual and autonomous driving process.
Autonomous Driving Computing System

![Diagram of Autonomous Driving Computing System]

FIG. 2
Autonomous Control Methodology for Repositioning Seat 900

Start

901 Select Autonomous Vehicle Drive Logic Control System to Plot Course

902 Process Automatically Correct Vehicle Course Sense Potential Mishap

903 Autonomous Drive Mode ON/OFF Switch to Manual Drive Mode

904 Repositioning Smart Seat for Manual Control of Vehicle Operations

905 Manually Control Navigation Operations with Driver Control Devices

906 Manually Controlling Vehicle Operations with Control Console Devices

907 Set Smart Seat to a Fixed Forward Position during Manual Drive Mode

908 Determine Automatic Drive Logic Process Switch to Autonomous Drive Mode? Continue Manual Drive Mode?

910 Autonomous Drive Mode

911 Manual Driver Mode

910 YES

911 NO Driverless Mode

913 Reset Smart Seat to Reposition User Employing Console

End

FIG. 9
AUTONOMOUS VEHICLE SEATING SYSTEM

CROSS REFERENCED TO RELATED APPLICATIONS

[0001] A notice of issuance for divisional patent application Ser. No. 12/655,569, file date Jan. 4, 2010, Publication number: US20110162896A1, titled: A Mode of Transportation Type Having Inner Motorized Omniwheel Apparatus and Method of Control. This application is also in reference to and related to: Publication number: U.S. Pat. No. 8,430,192 B2, on Apr. 30, 2013, titled: Robotic Omniwheel Vehicle, the contents of which are hereby incorporated by reference in their entirety.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH & DEVELOPMENT

[0002] Non Applicable

REFERENCE TO SEQUENCING LISTING, TABLE, OR COMPUTER PROGRAM CD

[0003] Non Applicable

FIELD OF THE INVENTION

[0004] This disclosure relates to an autonomous vehicle comprising a repositioning seating system utilizing a detachable computer control console including interactive input and output devices to position the vehicle driver in forward direction when switching from autonomous drive mode to manual drive mode to navigate, and also an autonomous drive computing system utilizing drive modes, perception sensors, lidar and radar systems, GPS, etc., and wireless telecommunication network system, MEMS cell phone navigation, remote controller devices, and the like to drive vehicle type through an environment.

BACKGROUND OF THE INVENTION

[0005] Improvements to autonomous vehicles are necessary as the level of transport sophistication increases more comfortable seating unit is required by the user and passengers therefore what the present seating system provides is an improved control console device comprising an expanded set of user device options accordingly, seating units reposition in various ways and each seat unit automatically rotates in panoramic positions for ultimate viewing and comfort, and to initially reposition the seated vehicle driver in forward direction when switching from autonomous drive mode to manual drive mode to navigate the vehicle via an autonomous drive computing system to assist the vehicle driver when operating a vehicle in either autonomous drive mode or manual drive modes the process system comprising input and output protocol data to assess the status of the vehicle’s environment devices including wireless telecommunication network system, MEMS cell phone navigation, remote controller devices, and the like to achieve driving process. The user seating unit comprises at least one adjustable arm to reattach and reposition frame containing an air bag, a power control system to charge user remote controller devices, and also utilizing a touch screen monitor including various user operating gauges to monitor the vehicle during manual and autonomous driving process via telecommunication network systems.

SUMMARY

[0006] Accordingly the present application discloses embodiments that relate to methods for an improved autonomous vehicle seating system comprising smart methodologies to accommodate a driver and passengers. The seating system comprises a repositioning and adjustable driver seating unit for interactive use and to assists the vehicle driver when operating a vehicle in either autonomous drive mode or manual drive modes which include processor systems comprising: input and output protocol data to assess the status of the vehicle’s environment, and sense a driver while sitting in a seating unit system. The seat unit accommodating passengers to include at least one adjustable arm supporting one dash panel containing a control console device comprising user input and output devices; a touch screen monitor including various user operating gauges, a power control system, a device charging port, and USB power ports with cable and for wireless connections, and utilizing a cell phone system with voice control to monitor and navigate the vehicle during autonomous driving process, and a radio and telecommunication network system and other remote control devices, the vehicle components and seating system assemblies are fabricated in a preferred method.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1A illustrates an exemplary autonomous vehicle with reconfigurable seating system.

[0008] FIG. 1B illustrates an exemplary autonomous vehicle seating unit.

[0009] FIG. 2 is a block diagram of an exemplary system that may be used in a vehicle type 1.

[0010] FIG. 3 illustrates one exemplary user seat unit 13 framed panel 7 containing an air bag 12.

[0011] FIG. 4 illustrates an exemplary seating system console array including various input and output devices.

[0012] FIG. 5 illustrating a reachable panel 7 actions on the seat’s right arm.

[0013] FIG. 6 is illustrating a reachable panel 7 and an adjustable motion via arrows to accommodate positioning near the drivers steering wheel.

[0014] FIG. 7A and FIG. 7B illustrates an exemplary reclining seat unit facing to the rear cab compartment when in a drive mode.

[0015] FIG. 8 illustrates an exemplary passenger compartment of an autonomous sedan with reconfigurable seat system is also comprising a rail system for repositioning the driver smart seat inside the autonomous vehicle cab compartment.

[0016] FIG. 9 is a diagram of an autonomous reconfigurable seating system used in the vehicle.

[0017] FIG. 10 illustrates an exemplary representation of an autonomous van with repositioning seating units.

[0018] FIG. 11 illustrates an exemplary representation of a multi-passenger vehicle with repositioning seating units.

[0019] FIG. 12 illustrates an exemplary representation of a compact two seater vehicle with repositioning seating units.

[0020] FIG. 13 illustrates an exemplary representation of a truck for semi hauling or for recreation vehicle with reconfigurable seat system is also comprising a fifth wheel to connect a trailer.
DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0021] An exemplary autonomous vehicle includes a passenger compartment and at least one seat located in the passenger compartment. The seat can be moved from a front-facing position to a rear-facing position when the vehicle is stationary or while the vehicle is operating in an autonomous drive mode. In some implementations, the seat with a bottom portion and a back portion may recline. The seating unit may be configured to move from a front-facing position, to a center position, diagonal or traverse positions and rear-facing position by rotation. Moreover, the seating unit comprises the instrument panel (7) in certain implementations which pivots and detaches off the seat unit arm and other improvement features that are described further below.

[0022] Hereinafter it is understood that the terms “vehicle 1” or “mode of transportation type” or other similar term as used herein is inclusive of motor vehicles in general such as autonomous driven and manually driven having a frame 2 and chassis with body 3 suited for any vehicle type (e.g., vehicle’s as users and passenger automobiles including taxi, trip hired, military utility vehicles (MUV), vans, buses, trucks, semitrucks and various commercial vehicles with container trailers, rail cars, hyperloop and high speed vacuum transit systems, watercraft including a variety of boats and ships, aircraft, blimps, outer space stations and the like), which may include; hybrid vehicles, electric vehicles, combustion, plug-in hybrid electric vehicles, robotic omnidirectional driven, hydrogen-powered vehicles and other alternative fuel cell vehicles (e.g., fuels derived from resources other than petroleum, renewable energy powered vehicles solar, wind and the like) to power the drive system 4. The vehicle body 3 may utilize a door, mechanism (6) either hinged, sliding or hawling like as illustrated in FIGS. 1, 8, and 10-13.

[0023] The vehicle type may not be autonomous driving vehicle, however the present disclosure is an autonomous vehicle 1 including a variety of autonomous and manual drive communication devices and comprising various autonomous driving computer system (ADCS 200) utilizing input and output devices which are transmitting data to various processors within the vehicle navigational control system comprising: a method including the vehicle navigation system to include a manual drive control steering wheel use as an input device and thus the steering wheel device is located on the vehicle dash panel transforming physical functionality of manual drive control (e.g., as shown by arrows in FIG. 1A, and FIG. 6); a method including a drive logic navigation control system comprising an ON/OFF switch allowing the autonomous drive mode of navigation control to change to the manual drive mode of navigation control, a manual drive mode authorizing vehicle driver 24 to drive when a mishap issue develops automatic drive logic seating unit navigation system to sense position of the driver seated inside the cab compartment 5.

[0024] The vehicle cab compartment 5 where passengers 30 may sit while the vehicle 1 driver 29 is operating the vehicle. In addition, the cab compartment 5 comprising controls that only allow a driver 29 to control the operation of the vehicle 1. Examples of controls may include a steering wheel 20, an accelerator pedal 21, a brake pedal 22, etc. Although illustrated as a sedan, the vehicle 1 may include any passenger or a commercial vehicle type as discussed above.

[0025] Although an exemplary vehicle embodiment is described as using a plurality of sensor units (207) to perform the exemplary ADCS 200 process, it is understood that one or plurality of systems are to perform one or more processes and method of control is comprising various processes to navigate a vehicle manually process steps in any order the process may include in any order: a seating system (exemplified in FIGS. 3-5) with an expanded set of user input and output device options including a fully-programmable touch screen with control menus and icons configured to control any function within the vehicle (e.g., seating unit navigation system, radio, video, climate control, connected mobile device, etc.). The vehicle 1 is comprising an automatic drive logic system to sense position of the driver 29 when seated in driver seat unit (13D) and to sense position of the passenger 30 when seated in passenger seat unit (13P).

[0027] As example FIGS. 1A and 1B an autonomous vehicle 1 may take many different forms and include multiple and/or alternate components and features. While an exemplary vehicle is shown, the exemplary components illustrated are not intended to be limiting. Indeed, additional or alternative components and/or implementations may be used. Moreover, the components shown in the FIGS are not necessarily drawn to scale.

[0028] In one embodiment, the vehicle type 1 utilizing an autonomous vehicle driving system 200 to plot a course accordingly. A vehicle driver when seated 13D is to manage the vehicle by selecting input control devices 209 for navigating the vehicle in the autonomous mode 201 and also in the manual drive mode 202 executed by drive logic control system 203 assessing algorithms, and also using optical sensor clustering algorithms, programs/software and the processor as described further in FIG. 2 and also, shown in FIG. 1A, the autonomous vehicle 1 is to include a smart seating system 23-28 situated inside the vehicle cab compartment 5 thus accommodating a plurality of seating units 13 for users 29/30 the main seating unit for the driver 29 (13D) comprises a navigation dash control panel 7 comprising thereon various navigation control console device components 8.

[0029] The seating unit for the driver 29 is situated on the driver side as shown of vehicle e.g., depending on the country region either right or left side and always facing forward inside the vehicle. The vehicle and seating system as illustrated is a van or sedan type which accommodates multi passenger 30 seating units (13P1, 13P2, and 13P3, etc.).

[0030] Also shown in FIG. 1A, the vehicle drivers 29 seating unit 13D is able to control manual driving with an array of input driving devices including a steering wheel 20, toggle device 19, a brake pedal 22, and accelerator pedal 21 in accordance, one embodiment, the vehicle type 1 utilizing an autonomous vehicle driving system 200 to plot a course accordingly as vehicle driver is seated 13D and to ultimately operate the vehicle by selecting input driving control devices 209 for navigating the vehicle in the autonomous drive mode 101 and also in the manual drive mode 202 executed by output devices such as a drive logic control system 203 with assessing algorithms, and also optical sensor clustering algorithms 207, programs/software 213 and the processor 211 e.g. described further in FIG. 2.
[0031] In one aspect, the autonomous vehicle 1 is to include a smart seating system 13 comprising a plurality of seating units the main seat for the driver 29 and 13D comprises a navigation dash control panel 7, and also including various driving console components 8 situated on the driver side facing forward inside the vehicle cab. The vehicle seating system as illustrated also accommodates passengers 13P1, 13P2, and 13P3 with their own console device 8 described further in FIG. 1B.

[0032] As shown in FIG. 1B the driver seating unit 13D communicates data and receives data from various processors within the autonomous driving computing system 200 comprising input control devices for the manual driving procedure. The driver 29 is to utilize a seating system (23) for the manual driving operations whereby the seating system 23 assist the driver as needed to select a dashboard panel 7 situated in front to easily reach. The dashboard containing manual driving components is including a steering wheel 20 to control the autonomous vehicle steering when in manual drive mode 202 or using a detachable hand controlled console device comprising a monitor with touch screen and display controller buttons, toggles and gauges (8) for the procedure.

[0033] The panel 7 contains user components in a preferred way various user components are input devices such as a laptop computer with touch pad and monitor 7, a smart cell phone 9, a hand held controller device 10, and for user protection the panel may include a built in air bag device 12.

[0034] The panel 7 may comprise a toggle 19 working like a joystick to accelerate and brake to drive the vehicle differently than a steering wheel method, the driver 28 most like will use a conventional steering wheel 20 method to drive the vehicle using corresponding accelerator pedal 21 and brake pedal 22 devices.

[0035] The control console device 8 touchscreen may be configured by the processor to execute various control functions, and may include one or more wireless control elements in addition to or instead of those shown for example, the control console may include additional user controller components or system forms to pilot the vehicle from the driver seat unit 13D by various control signals to include: a microphone configured to receive audio (e.g., voice command or input). The autonomous vehicle system is comprising one or more driver input and output devices for operating an autonomous vehicle temporarily in manual drive mode 202 and for operating an autonomous vehicle in autonomous drive mode 201. The steps required to drive the vehicle are corresponding to controlling of the drive logic mode 203 and various vehicle system procedures which are described further below.

[0036] As exampled in FIGS. 1A and 1b, FIG. 8 the autonomous vehicle’s cab compartment 5 comprises at least one vehicle seat unit 13 or an array of seat units which can be grouped to face the same direction or face each other or oppose each other, when in either the forward operating position or the facing to the rear, as shown the passenger seating unit 13P1 is facing to the rear (e.g., shown in FIGS. 7A and 7B the vehicle seat unit 13 or an array of seat units can be grouped to face the same direction or face each other or oppose each other) via seating methods 23, 24, 25, 26, 27 and 28.

[0037] In one aspect, the driver 29 is alerted to prepare to take over if a problem is determined, the seat automatically turns slowly, and accordingly the seating system motor 16 rotates the seat repositioning automatically to face forward. The seating system motor 16 is coupled to the compartment 5 floor subsystem referring to FIG. 3. The seating system 23 seating unit 13 can be arranged to glide vertically about on a rail 17 system which may be lateral or circular. An array of multiple seating units they can be situated to set side by side, front to back, and according each seat unit is to inner-connect and communicate in group series via USB and cable lines 18 within electrical system (not shown) that is manage by a power control system 208 (e.g., described further in autonomous driving computing system 200 or the ADCS process 200).

[0038] As shown, FIG. 2 is a schematic diagram of the logical autonomous driving computing system 200 discussed herein may include variations and entities an autonomous driving computing system incorporated into the vehicle type. The autonomous driving computing system 200 (ADCS) is capable of communicating with various input and output device and I/O components to maneuver the vehicle autonomously, accordingly the ADCS process includes wherein, the autonomous drive mode 201, the manual drive mode 201 and the drive logic mode 203, and a navigation mode 204, and include various input devices 205, output devices 206, perception sensor system 207, trajectory device system 208, telecommunication system 209, main CPU computer system 210, processors 211, memory and data storage, software and programs 213, networking devices 214, and the seating unit’s main computer control system 215 including one or more microprocessors, accordingly the input and output packet data to assess; the status of the vehicle’s environment, the vehicle, and systems of the vehicle, and sense a driver while sitting in a seating unit system.

[0039] In one embodiment, the seating control systems 23-28 utilize a wireless communication network system 214 which may be any system configured to be wirelessly coupled to one or more other automobiles, sensors, in general may be arranged to communicate according to one or more other types of wireless communication (e.g., protocols) such as Bluetooth, communication protocols described in IEEE 802.11 (including any IEEE 802.11 revisions), cellular technology (such as GSM, CDMA, UMTS, EV-D0, WiMAX, or LTE), Zigbee, dedicated short range communications (DSRC), and radio frequency identification (RFID) communications, among other possibilities. The network devices 217-219 for a wireless communication system as exampled as a IPAD 217, a cell phone 218, and a remote controller device 219, or the like may take other forms as well.

[0040] In one embodiment, the power control system 208 comprising methodologies for the seating control system to charge user devices, charging system to comprise at least one charging USB charging port (11) to plug in user device to charge battery, to include a charging port comprising: a profile sensor configured to detect information relating to the identity of power-consuming device to which the charging device is connected; at least one USB charging port (11) is configured to receive an identity protocol for connectivity of the charging device plugged into a port situated the control console device, and the USB charging port device is configured to receive an identity of the power-consuming device via a USB power cable connection, charging device is comprising a main power adaptor or a AC-DC.

[0041] As shown, FIG. 3 is an exemplary diagram of a seating unit 13 for repositioning motion. The seating unit 13 may comprise one arm or have a set of two supporting arms, as shown the right arm 14 indirectly accommodates the panel 7 situated relative to the mounting arm joint (e.g. shown by arrows) for an adjustment
process. The arm can be pivoted and spun to adjust position, the arm section connecting to the seats back section is having jointed axis angle for horizontal orientation basically flipping the arm up so that the user can get in the seat easier, as well so that the panel 7 can raise up and down to adjust to the height of the users lap.

[0042] In one embodiment the floorboard device 5 comprises a motor device 16 and power cable 18, the cab compartment 5 floorboard comprising the repositioning seating system 25 is including a rail system 17 and control system contained beneath to reposition seating groups. The seating unit is to move in a desired position and may be supported for repositioning, accordingly the rail system is comprising a rail device 17 assembly method which allows preferred orientation seating positioning, accordingly the rail device 17 is situated underneath the seat in a preferred arrangement to thusly reposition seat via a powered seat motor 16. The seating may be manually moved back and forth on a rail device surface as illustrated in FIG. 10 to allow access into the vehicle through the door mechanism 6.

[0043] As shown, FIG. 4 is a top view of an exemplary diagram of a seating system 24, the seating method is comprising seat unit 13 including various control device components allowing a vehicle operator (e.g., driver 29) to navigate in manual drive mode and/or when not autonomous drive mode. The seat control panel peripherals may additionally or alternatively include components other than those shown in the embodiments exemplified on the control console device 8 that is including a main CPU computer device 210 and may work in combination with other vehicle control systems.

[0044] A user 29/30 employs the seat unit’s 13 control console devices placed in/on the frame of the panel 7 is coupled to a seat arm 14, with a level device 15. The panel 7 works like a dash to contain a component in a preferred way and is fabricated by a manufacturer and may include various user input devices such as; a laptop top computer with touch pad and monitor, 8, a smart cell phone 9, a hand held controller device 10, a USB power port with a charger 11, the port is connected by USB power plug and power cable 18.

[0045] The seating control systems include the panel 7 containing thereon console components which connect to USB ports, the user can set’s device on the frame 7 to charge a user other gadgets attached to the console via USB power ports 11 for charging process via charging system to comprise at least one charging USB charging port to plug in user device’s battery, and to include a charging port system wherein (not shown) comprising a profile sensor configured to detect information relating to the identity of power-consuming device is connected.

[0046] The seat unit 13 may be assigned a user/passenger to attach and plug in their cell phone device 9 in their own console device as described in FIG. 1A. Another example, returning to FIG. 2, the seat unit 13 may include various communication network configurations 214.

[0047] The seat unit for user protection is to comprise a safety feature to include a built in air bag device 12 with I/O sensors 205 and 206.

[0048] The panel may comprise a toggle or a joystick 19 to accelerate and brake to drive the vehicle.

[0049] The driver 29 can also use a conventional steering wheel 20 method to drive the vehicle using corresponding accelerator pedal 21 and brake pedal 22 devices.

[0050] A seat unit 13 may be configured only to accept input and output audio command signals from the driver and no other and thus allowing only the driver access to control the vehicle.

[0051] The seat unit 13 may comprise a motor device 15 and power cable 18, to rotate via preprogrammed system 213 seating system suited for individual passenger 30 settings with data memory 212.

[0052] The driver’s seating method employs autonomous control modes to engage a motor’s controller to automatically reposition the drivers seating unit 13D (on point) to reset the seating unit position at forward heading.

[0053] In one embodiment, a user 29/30 input device can be a laptop or an iPad device 8 when connected onto the panel’s frame 7 can be supported while being charge and when disconnect the lap top/Wad device 8 to work as a navigation control device which includes various steering nobs, throttle buttons and monitor to control the vehicle operating like a remote controlled robotic vehicle, or like an unmanned mobile vehicle (UMV), or UAV, or a drone.

[0054] In one embodiment, the smart cell phone device 9 when connected onto the panel’s frame can be supported while being charge and when disconnect the smart cell phone device 9 works as a navigation control device which includes various steering nobs, throttle buttons and monitor to control the vehicle operating as an example like methods controlling a UMV, or UAV, or a drone.

[0055] In one embodiment, the remote controller device 10 when connected onto the panel’s frame can be supported while being charge and when disconnect the remote controller device 10 works as a navigation control device which includes various steering nobs, throttle buttons and monitor to control the vehicle operating like a UMV/UAV/drone.

[0056] As shown in FIG. 5, a system method 25 for the arm apparatus, the method comprising at least one adjusting lever device (15), the level allowing the user 29/30 to adjust the angle of the panel and to extend the panel outward and retract the panel inward and remove the panel from the arm end. The seat unit 13 coupled to the arm apparatus is comprising a positioning angle to move the arm apparatus up and down thusly to a height above and across users lap.

[0057] As shown in FIG. 6, a system method 26 for the a driver 29 employs the panel 7 with an adjustable range of motion in forward and backward e.g., detailed by arrows to accommodate positioning near the drivers steering wheel 20. The seat unit coupled to the arm apparatus is comprising at least one positioning angle to move the arm apparatus up and down and to height of the panel over users lap. Whereby a user 29/30 employs the panel 7 with an adjustable range of motion in forward to be center with the steering wheel but not touch the wheel so that the wheel can be free to rotate when driver steers vehicle, and also can access the control console device right in front the steering wheel.

[0058] The driver seating control system 26 is further comprising a manual drive mode, thus accordingly authorizing a vehicle user/driver 25 to employ the drive logic control system 203 (e.g., autonomous vehicle drive system 200) to plot a course accordingly by using an array of various vehicle control system devices, as well, an automatic drive logic control system to autonomously activate an occupied seat to gradually accelerate into forward position when a problem develops.
As shown in FIG. 7A, the seating control system 27, the seating unit 13 rotating to reverse or a rear position. The seat is to face toward the rear on the vehicle compartment 5 to group with the seating units for the passengers 30, and as shown in FIG. 8. A control method for reclining the seating unit 13 to relax when in autonomous drive mode.

As shown in FIG. 7B the seating control system 28 whereby a user such the driver 29 employs a seat unit 13, the rotating to reverse or a rear position and also reclining backward to relax (e.g., the user held in by a 3 point seat belt is not shown). The seat will alarm and slowly rises when a problem is detected the method for this action is not shown.

As shown in FIG. 8 accordingly, as an example when the autonomous drive mode of the vehicle is dynamically in control and is configured to sense a position of a driver 29 and is configured to switch the control of corresponding positions of the driver 29 to move in different positions, thusly corresponding sensor data of the automatic driving control system thereby continuing to sense the position of the driver seat or passenger 30 seating unit 13.

As shown in FIG. 9 a schematic diagram for an autonomous reconfigurable seating system used in the vehicle, the autonomous vehicle process steps comprising: Select Autonomous Vehicle Drive Logic Control System to Plot Course; Process Automatically Correct Vehicle Course Sense Potential Problem; Autonomous Drive Mode ON/OFF Switch to Manual Drive Mode; Repositioning Smart Seat for Manual Control of Vehicle Operation; Manually Control Navigation Operations with Driver Control Devices; Manually Controlling Vehicle Operations with Control Console Devices; Set Smart Seat to a Fixed Forward Position during Manual Drive Mode; Determine Automatic Drive Logic Process; Switch to Autonomous Drive Mode; Continue Manual Drive Mode (Yes, No); Reset Smart Seat to Reposition to forward direction position, and User Employing Control Console I/O Devices (e.g., steps 200-219 to navigate vehicle manually).

As shown in FIGS. 10-13, the autonomous control system for a vehicle type 1, the vehicle examples are shown as multiple passenger vehicles, thereby the vehicle operates according via the automatic drive logic control system of FIG. 2 and FIG. 9 are comprising autonomous and manual drive modes of operation which communicate data and receive input and output data from various processors within the vehicle navigational control system, the system to include various navigational scanning devices and tracking devices; lidar, radar and GPS and the like are configured to determine a driving path logically for an autonomous vehicle to drive through.

In various aspects, the vehicles a frame and chassis make suit a user:

FIG. 10 is a van depicting the seating for the driver 130, the seat is shown in motion to reposition;

FIG. 11 is a representation for vehicle compartment which suits a multi-passenger vehicle:

FIG. 12 is a compact vehicle shown with a rotating seat array, and

FIG. 13 illustrates a truck for semi hauling or for a recreational vehicle with reconfigurable seat system is also comprising a fifth wheel device to connect to a trailer.

In one embodiment, the vehicle cab compartment floorboard to support a seat array and a seat frame comprising various seat assemblies including preferred chair parts, materials, motorized actuators and the like.

As an example, FIGS. 1, 8, and FIGS. 10-12 various position information data is collected and processed and stored to determine both the driver 25 position and compared with the vehicle direction heading and is visually displayed on the control panel monitor thus to steer on point.

The vehicle cab compartment includes the vehicle door devices 6 which is either a common hinged door, a sliding door common on vans and is located on the vehicle body 3 to access the cab compartment, or the door maybe a hinging type to open upwardly.

A vehicle cab may comprise an expanded set of user input options is including a fully-programmable touch screen with control menus and icons, which may be configured to control any function within the vehicle (e.g., navigation system, radio, video, climate control, connected mobile device, etc.) and drive logic (e.g., autonomous mode to the manual mode of operation CPU computer system).

A telecommunication 209 system and user 25/26 devices such as a smart cell phone network 214 to transmit and present information to a user 25/26, to display of the control console device 8/215 which is including short range communication protocols such as Bluetooth, Bluetooth LE, the Internet, World Wide Web, intranets, virtual private networks 214, wide area networks, local networks, private networks using communication protocols proprietary to one or more companies, Ethernet, WiFi and HTTP and various combinations of the foregoing. Such communication may be facilitated by any device capable of transmitting data 212 to and from other computing devices via cell phone 9/216 and radio signals (not shown). The cell phone server may use network 214 to transmit and present information to a user, such as user network 214.

The (smart) cell phone 9 embodiment of the present technology utilizing MEMS and gyroscope schemes, MEMS accelerations of the smart cell phone 9 may be measured for six degrees-of-freedom by using a number of accelerometers, wherein three accelerations may be measured corresponding to the x, y, and z-axes of a Cartesian coordinate system, and wherein three additional accelerations may be measured corresponding to pitch, roll, and rotation of the vehicle (vehicle driving methodology not shown).

In one embodiment, the vehicle seat unit 13 works as a personal computing device including a one or more processors 211 (e.g., a central processing unit (CPU)), memory (e.g., RAM and internal hard drives) storing data 212 and instructions, a display such as the display control console device 8 (e.g., a monitor having a screen, a touch-screen, a projector, a television, or other device that is operable to display information), and user input devices 205, (e.g., a mouse, keyboard, touch-screen or microphone). The user’s computing devices may also include a camera for recording video streams, speakers, a network interface device 213 with cable and USB components 18 used for connecting these elements to one another.

It will also be understood that the provision of the examples described herein (as well as clauses phrased as “such as,” “e.g.”, “including” and the like). As these and other variations and combinations of the features discussed above can be utilized without departing from the subject matter as defined by the claims.

The specifications discuss in general terms the principal concept for the vehicle assemblies, programs and soft-
ware and cellular phone control applications, navigation controls and device’s also electronic and mechanical components for the chassis and cab compartment contents which may be purchased from the manufacturer.

[0078] The various embodiments specified seating system contents are describe in generic terms and are not technologically precise and thusly as claimed remains within accordance and it is apparent to those skilled in the art that many more entailed nuances are possible within the scope of the invention.

1. An autonomous vehicle system comprising:
   an autonomous driving computer system,
   various seating control system (23-28) to control a user 29/30 seat unit, seat unit is comprising at least one adjustable arm supporting one dash panel (7), a control console device (8) thus comprising input and output control devices including; a touch screen monitor including various user operating gauges, and a cell phone system comprising wireless telecommunication voice control to monitor and navigate the vehicle during autonomous driving process, and a radio device having transmission communication including signaling and receiving methods,
   a seat unit control system comprising telecommunication network system methodologies,
   a power control system, a device charging port, and USB power ports with cable, plugs and connections.

2. A vehicle system comprising a frame and chassis type including a cab compartment including a floorboard system supporting at least one seating unit to reposition in lateral directions.

3. The autonomous driving computer system of claim 1 further comprising: the following processes and control modes;
   an autonomous drive mode comprising:
   a process to switch a vehicle navigation control system from an autonomous drive mode to a manual drive mode by a drive logic computer and processor system comprising: input and output protocol data to assess; the status of the vehicle’s environment; the vehicle, and systems of the vehicle, and sense a driver while sitting in a seating unit system;
   a method generating, based on a potential problem or driving mishap, a set of tasks in an ordered sequence repositioning and determining the driver seat unit is facing a forward position, and
   a method identifying a set of driving conditions from a plurality of driving conditions based on one or more of the assessments, wherein each of the plurality of driving conditions is associated with a task that may be performed by a driver to change the seating unit position in order to drive vehicle facing forward when seated.

4. The autonomous vehicle system of claim 1, comprising process steps to switch from autonomous drive mode to manual drive mode steps including; select autonomous drive model system to plot course; automatically correct vehicle course upon sensing potential problem; switch to manual drive mode; reposition driver seating unit (13D) to forward direction for manual control of vehicle operation.

5. The autonomous vehicle system of claim 1 further comprising:
   an automatic drive logic mode to sense position of the driver seating unit (13D) and to sense position of the passenger seating unit (13P) when seated.

6. The autonomous driving computer system of claim 3 comprising various processes to navigate a vehicle including:
   an autonomous drive mode, a manual drive mode and drive logic mode which communicates data and receives data from various processors within the vehicle navigational mode to control the autonomous vehicle driving process;
   a panel 7 including a steering wheel to control the autonomous vehicle steering process;
   a smart cell phone device to control the autonomous vehicle driving process, the cell phone device comprising a monitor with touch screen and digital display controller buttons, toggles and gauges, MEMS, and gyroscope scheme;
   a detachable hand held remote controller device to control the autonomous vehicle driving process, the detachable remote controller device comprising a monitor with touch screen and display controller buttons, toggles and gauges;
   a floorboard system comprises a motor device and USB and power cables 18, and other mechanical methods which may utilize hydraulic system with fuel lines, the floorboard system to glide on a rail system to reposition seating unit and to move user in both circular and lateral positions (e.g., as shown in FIG. 3).

7. The seating control system of claim 1, the seat unit 13 wherein comprising one or two arm apparatus.

8. The arm apparatus of claim 7 further comprising: one or more arm apparatus having a jointed axis which pivots in various positions as depicted by arrows and is employed for reattaching the panel.

9. The arm apparatus of claim 8 comprising at least one adjusting lever device (15), the level allowing the user or the passengers to adjust the angle of the panel and to extend the panel outward and retract the panel inward and remove the panel from the arm end.

10. The seat unit of claim 1 is coupled to the arm apparatus and is comprising at least one positioning angle to move said arm apparatus up and down and to preferred level and height for accommodating user lap position.

11. The steering wheel device of claim 1 comprising a method to be situated center of the panel 7 (e.g., as depicted in FIG. 7B).

12. The autonomous drive mode of claim 3, including various system methodologies comprising:
   a method including a variety of autonomous and manual drive communication devices,
   a method including input and output devices transmitting data to various processors within the vehicle navigational control system comprising: a method including the vehicle navigation system to include a manual drive control for a steering wheel device (e.g., as shown by arrows in FIG. 1A, and FIG. 6);
   a method including a drive logic navigation control system comprising an ON/OFF switch allowing the autonomous drive mode of navigation control to change to the manual drive mode of navigation control;
   a manual drive mode authorizing vehicle driver to drive when a mishap issue develops automatic drive logic seating unit navigation system to sense position of the driver.

13. The seating unit (13) of claim 1 and claim 5 is further comprising a method of control to adjust the seating unit’s
lateral position via a panning cog motor 16 device to reposition in a preferred rotational direction.

14. The vehicle compartment of claim 1 further comprising a rail device for positioning one or more user seat units in lateral arrangements for one or more seat groupings arrangements include facing and opposing ways and other seating unit orientations.

15. A vehicle power control system of claim 1 comprising methodologies to systematically maintain a constant charge to a primary vehicle battery, and also to systematically maintain a constant power supply to the vehicle seating units to power the input and output devices, motors, and to power to charge connected devices.

16. The autonomous vehicle seating system comprising:

- a power control system comprising methodologies for the seating control system to charge user devices, the power control system comprising a charging system to at least one charging USB charging port to plug in user device’s battery, and to include a charging port system, wherein comprising:
  - a profile sensor configured to detect information relating to the identity of power-consuming device to which the charging device (not shown) is connected;
  - at least one USB charging port is configured to receive an identity protocol for connectivity of the charging device contained inside the panel is not shown, and upon charging the user device when plugged into a charge port situated the control console device, and

the USB charging port device is configured to receive an identity of the power-consuming device via a USB power cable connection, charging device (not shown) is comprising a main power adaptor or a AC-DC converter (not shown).

17. The seating system control console device of claim 16 comprising thereon:

- a method for user to fasten and dock various devices onto the console surface,
- a method to charge a user device when connected to the USB power charging port,
- a method for user to employ other input and output devices and interactive devices which affix to the panel.

18. The power control system of claim 16 further comprising a USB power port for attaching a device to become connected to be charged by a system to control a charging device (not shown).

19. The control console device (8) of claim 1 further comprising a method to affix numerous user input device onto the panel 7 by a manufacturer using a preferred fabrication method and by using preferred assembly materials.

20. The vehicle system of claim 1 further comprising telecommunication network system methodologies which include a telecommunication 209 system and user devices such as a smart cell phone network 214 to transmit and present information to a digital monitor display of the control console device which also is including short range communication protocols.

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