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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

**Title of
Invention**

Methods and Systems for Defining Custom Vehicle User Interface Configurations and Cloud Services for Managing Applications for the User Interface and Learned Setting Functions

As the below named inventor, I hereby declare that:

This declaration
is directed to:

☒

The attached application, or

☐

United States application or PCT international application number _____
filed on _____.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

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LEGAL NAME OF INVENTOR

Inventor: Angel A. Penilla

Date (Optional): March 4, 2013

Signature: /Angel Penilla/

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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As the below named inventor, I hereby declare that:

This declaration is directed to: ☒ The attached application, or
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The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

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LEGAL NAME OF INVENTOR

Inventor: Albert S. Penilla Date (Optional): March 4, 2013
 Signature: /Albert Penilla/

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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Electronic Patent Application Fee Transmittal

Application Number:				
Filing Date:				
Title of Invention:	Methods and Systems for Defining Custom Vehicle User Interface Configurations and Cloud Services for Managing Applications for the User Interface and Learned Setting Functions			
First Named Inventor/Applicant Name:	Angel A Penilla			
Filer:	Albert S. Penilla			
Attorney Docket Number:	VOLTP027			
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	98	98
Utility Search Fee	2111	1	310	310
Utility Examination Fee	2311	1	125	125
Pages:				
Claims:				
Claims in excess of 20	2202	6	31	186
Miscellaneous-Filing:				
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				719

Electronic Acknowledgement Receipt

EFS ID:	15114778
Application Number:	13784823
International Application Number:	
Confirmation Number:	8299
Title of Invention:	Methods and Systems for Defining Custom Vehicle User Interface Configurations and Cloud Services for Managing Applications for the User Interface and Learned Setting Functions
First Named Inventor/Applicant Name:	Angel A Penilla
Customer Number:	25920
Filer:	Albert S. Penilla
Filer Authorized By:	
Attorney Docket Number:	VOLTP027
Receipt Date:	05-MAR-2013
Filing Date:	
Time Stamp:	00:05:48
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$719
RAM confirmation Number	9468
Deposit Account	500805
Authorized User	

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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Specification	VOLTP027_App_As_Efiled.pdf	345042	no	80
			5d0475fba71291e4f8a98606e958dd7093e4bb0		
Warnings:					
Information:					
2	Drawings-only black and white line drawings	VOLTP027_Drawings_Informal_Efiled.pdf	14334518	no	21
			ee5300da4e732d2367aa4168d0f9b65449858826		
Warnings:					
Information:					
3	Application Data Sheet	VOLTP027_ADS.pdf	1433080	no	6
			07a385e1004c58a986ea80c6e26e88e6504c0194		
Warnings:					
Information:					
4	Oath or Declaration filed	VOLTP027_DEC_AAP.pdf	173412	no	2
			60800bfd4f59ed3dc016198b62590759ee5ce29		
Warnings:					
Information:					
5	Oath or Declaration filed	VOLTP027_DEC_ASP.pdf	173422	no	2
			4a2ca863cf57c0ae2c414121b0623fa7f15ba76		
Warnings:					
Information:					
6	Fee Worksheet (SB06)	fee-info.pdf	36544	no	2
			890b5adee6aa881ccc69ac4844999485188254fe		
Warnings:					
Information:					
Total Files Size (in bytes):			16496018		

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

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New International Application Filed with the USPTO as a Receiving Office

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PATENT APPLICATION

**Methods and Systems for Defining Custom Vehicle User Interface
Configurations and Cloud Services for Managing Applications for
the User Interface and Learned Setting Functions**

INVENTORS:

Angel A. Penilla
Sacramento, California
U.S. Citizen

Albert S. Penilla
Sunnyvale, California
U.S. Citizen

**Methods and Systems for Defining Custom Vehicle User Interface
Configurations and Cloud Services for Managing Applications for
the User Interface and Learned Setting Functions**

By Inventors:

Angel A. Penilla

Albert S. Penilla

Claim of Priority

[0001] The present invention claims priority to U.S. Provisional Patent Application No. 61/745,729, filed on December 24, 2012, and entitled “METHODS AND SYSTEMS FOR ELECTRIC VEHICLE (EV) CHARGING, CHARGING SYSTEMS, INTERNET APPLICATIONS AND USER NOTIFICATIONS”, which is herein incorporated by reference. This Application is also a continuation-in-part of US Application No. 13/452,882, filed April 22, 2012, and entitled “ELECTRIC VEHICLE (EV) RANGE EXTENDING CHARGE SYSTEMS, DISTRIBUTED NETWORKS OF CHARGE KIOSKS, AND CHARGE LOCATING MOBILE APPS”, which claims priority to US Provisional Application No. 61/478,436, filed on April 22, 2011, all of which are incorporated herein by reference.

Field of the embodiments

[0002] The present invention relates to systems and methods for customizing vehicle user interfaces and exchange of information with cloud-based processing systems to enable integration with third party applications.

BACKGROUND

[0003] Vehicles, such as motorized vehicles and electric vehicles have been around for some time. Vehicles provide a means that enable humans to drive from place to place. In today’s world, vehicles have become an indispensable mode of

transportation, and provide the freedom to travel at any time of day and for various distances. Vehicles can be publically operated or can be privately owned. Humans most commonly operate vehicles, no matter the type, whether electric or combustion engine based. In recent years, technology has been advancing to allow for better wireless interfacing and networking with vehicles.

[0004] It is in this context that embodiments of the invention arise.

SUMMARY

[0005] The methods, systems and apparatus include electronics of vehicles that drive display devices in vehicles and communicate wirelessly with Internet services.

[0006] Methods, systems, and computer readable media embodied in tangible mediums are disclosed. One example method includes providing access to cloud services over the Internet for customizing a user interface of a vehicle. The method includes providing selection options to identify a vehicle type among a plurality of vehicle types, where each vehicle type is associated with a system component native to the vehicle type. The system component provides native interfaces for the vehicle type. The method includes identifying a plurality of applications available for the vehicle type. Each of the applications provided with predefined code for communicating with at least one control interface of the system component. The method includes identifying an application from the plurality of applications. The application providing an app interface to be added to the user interface of the vehicle. The method generates a custom configuration of the user interface for the vehicle type that includes native interfaces for components native to the vehicle type and the app interface for the application. The custom configuration is defined to render or set at least one screen or part of one screen of the user interface for display on a vehicle display. The custom configuration is wirelessly transferred to memory and electronics of the vehicle from the database, from cloud processing (e.g., servers/storage having access via the Internet). The custom configuration is saved to a user account in the database interfaced over the Internet with the cloud services, the method being executed by a processor. The custom configuration can be updated from time to time and can be transferred to other vehicles.

[0007] In some embodiments, the method includes receiving a request to modify the custom configuration; enabling changes to the identified application, the changes including adding additional applications or removing the application; updating the custom configuration with the changes; saving the custom configuration to the user account.

[0008] In some embodiments, the method includes enabling identification of a second vehicle for the user account, the second vehicle having a second vehicle type.

[0009] In some embodiments, the method includes processing a request to transfer the custom configuration to the second vehicle, the processing of the request includes, automatically updating the system component for the second vehicle type, the system component of the second vehicle including more or less native interfaces based on the second vehicle type as defined by a manufacturer of the second vehicle; and determining if the application is compatible for the second vehicle type, and providing options to select an update for the application in response to processing the request to transfer the custom configuration when the application is not compatible for the second vehicle type.

[0010] In some embodiments, the manufacturer of the vehicle and the second vehicle is either the same or different.

[0011] In some embodiments, the method includes processing a request to use the custom configuration on the second vehicle, the processing of the request includes, receiving login credentials for the user account to enable use of the custom configuration at the second vehicle automatically updating the system component for the second vehicle type, the system component of the second vehicle including more or less native interfaces based on the second vehicle type as defined by a manufacturer of the second vehicle; and determining if the application is compatible for the second

vehicle type, and if the application is not compatible for the second vehicle type, either omitting the application from the custom configuration or providing a replacement application for the application with or without user input.

[0012] In some embodiments, the method includes maintaining a database of user accounts, each user account having one or more custom configurations of user interfaces; processing a request to use a second custom configuration on the vehicle, the request being received from the vehicle upon entering credentials to access a second user account; transferring the second custom configuration to the vehicle for use while the credentials of the second user account are active on the vehicle, wherein a verified request to use the second custom configuration terminates use of the custom configuration in favor of the second custom configuration.

[0013] In some embodiments, the method includes terminating a session of use of the custom configuration on the vehicle, termination of the session acts to, reset the display of the vehicle to provide the user interface with system interfaces that are default-set by the manufacturer of the vehicle; or set a second custom configuration for a second user account.

[0014] In some embodiments, the vehicle display of the vehicle includes any one or more of a main dashboard display, or a center console display, or a combined main dashboard and center console display, or a glass surface, or a windshield display, or a window display, or a touch surface display, or a headrest display, or a movable display, or a wireless display, or a wire-connected display, or combinations of one or more thereof.

[0015] In some embodiments, the method includes receiving a request to make changes to add or remove applications from the custom configuration.

[0016] In some embodiments, the method includes enabling a user interface tool to arrange some of the system components and app components of the application on a display, the arranging includes defining positional locations for graphical user interface (GUI) items of the custom configuration, the user interface tool being provided via a website of the cloud processing that manages the user account.

[0017] In some embodiments, the method includes enabling linking of one or more applications executed on a mobile device to be presented on the vehicle display of the vehicle in accordance with the custom configuration, the linking enabled upon pairing the mobile device with electronics of the vehicle. In one example, the applications from the mobile device can be presented in a split screen region of the vehicle display. The split screen can allow presentation of apps and content from the mobile device or cloud services of the mobile device, along with services and apps of the vehicle. In this implementation, the split screen provides for a seamless presentation of data from devices of the user and data managed by cloud services or programs of the vehicle. In another embodiment, split screen presentation allows mirroring of content generated by the mobile device on screens of the vehicle. In one configuration, restrictions on use can be applied by algorithms managed by the vehicle code or cloud code to enable safe driving. For instance, if the data of the mobile device requires interactivity that may cause distractions, such as texting, entering data by hand, gesturing, etc., such features may be disabled or a function can be provided to translate the entry to voice/audio output and voice input by the driver or occupants. In one embodiment, if a passenger is able to handle the input, the features may be enabled, provided the input is coming from a passenger seat. Logic in the vehicle can detect if a person is sitting in the vehicle, and voice authentication or video confirmation can be performed to determine

if the person entering the data is a passenger. Thus, verification of the person entering data to user interface components can be made on the fly.

[0018] In some embodiments, the method includes receiving user input via the custom configuration; learning patterns of user input over time; automatically programming one or more components of the custom configuration based on the learned patterns of user input, automatic programming changing over time based on the received user input via the custom configuration and saved periodically to the user account in the database via a wireless connection to the Internet.

[0019] In some embodiments, the method includes automatically adjusting positional locations for graphical user interface (GUI) items of the custom configuration based on the learned patterns; and saving the adjustments to the user account, the user account being saved in a database that is interfaced over the Internet with cloud services that execute code using one or more processors.

[0020] In some embodiments, the programming of one or more components of the custom configuration includes automatically setting input based on times of day, or days of week, or dates of month, or times of year, or combinations thereof.

[0021] In some embodiments, the method includes associating biometrics to the user account, the biometrics being used to monitor use of the vehicle and determine if the custom configuration is enabled, or if a guest custom configuration should be enabled, or if public custom configuration should be enabled, the user account includes profile data defining when particular configurations should be enabled based on the biometrics.

[0022] In some embodiments, the custom configuration is saved to the user account in cloud storage having the database, and cloud processing provides communication with the vehicle over the Internet via wireless Internet communication.

[0023] In some embodiments, cloud processing provides a website interface or backend server or services interface to enable selection of the vehicle type and the application to define the custom configuration and also enables updates to the custom configuration to add, delete or update applications to be associated with the custom configuration.

[0024] In some embodiments, the code for the custom configuration is transferred to the vehicle upon receiving credentials to access the user account from the vehicle so as to associate the vehicle to the custom configuration, the association of the custom configuration to the vehicle being for a period of time.

[0025] In some embodiments, the period of time is for a session that remains until logged out of the user account, or a period of inactivity, or when biometrics detects use by other than a person associated with the user account, or a second user account logs in to define a new session with a second custom configuration of the second user account.

[0026] In some embodiments, vehicle electronics are programmed with a master account, the master account being provided access communication with cloud services over the Internet, the master account enabling use of the custom configuration with one or more restrictions.

[0027] In some embodiments, the restrictions include enabling, disabling or regulating system components of the vehicle, enabling or disabling certain applications of the custom configuration, wherein the restrictions being updateable over a website that enables remote configuration and monitoring of the vehicle using cloud services over the Internet for the master account, the master account enabling one or more guest accounts to be used on the vehicle, such that one or more custom configurations are usable on the vehicle during respective sessions.

[0028] In some embodiments, the method includes associating logins to the user account, the logins being used to determine if the custom configuration is enabled, or if a guest custom configuration should be enabled, or if public custom configuration should be enabled, the user account includes profile data defining which particular configurations should be enabled based on the logins, wherein the logins are made via the vehicle that communicates with cloud services via the Internet through a wireless link.

[0029] In some embodiments, the method includes saving use data of the vehicle for each login, the use data further being linked to automatic notifications, such that certain use data triggers an automatic notification to an administrator of the user account, the notifications including text notifications, phone call notifications, web notifications, smartphone notifications, social network notifications, or combinations thereof.

[0030] In some embodiments, biometrics include one or more of image data of a driver's face, a passenger's face, a finger print, a retina scan, a signature, a gesture, or combinations thereof.

[0031] In one embodiment, a method is provided. The method includes providing access to cloud services over the Internet for customizing a user interface of a vehicle. The method includes providing selection options to identify a vehicle type among a plurality of vehicle types, each vehicle type being associated with a system component native to the vehicle type, the system component providing native interfaces for the vehicle type. A plurality of applications are provided as available for the vehicle type, and each of the applications may be provided with predefined code for communicating with at least one control interface of the system component. The method includes defining a custom configuration of the user interface for the vehicle type that includes native interfaces for components native to the vehicle type and an app interface for an

application added to the user interface of the vehicle. The custom configuration is defined to set or program at least one screen of the user interface for display on a vehicle display when the custom configuration is wirelessly transferred to memory and electronics of the vehicle from the database. The custom configuration is saved to a user account in a database interfaced over the Internet with the cloud services. The method further includes receiving user input via the custom configuration and learning patterns of user input over time. The method automatically programs one or more components of the custom configuration based on the learned patterns of user input. The automatic programming changes over time based on the received user input over time via the custom configuration. The changes to the automatic programming are saved periodically to the user account in the database via a wireless connection to the Internet. The method being executed by a processor.

[0032] In one embodiment, the custom configuration is generated using tools and programs made available on a website. The tools and programs may be executed by computers, such as computers of a data center to provide cloud based processing. The data centers can be distributed geographically and the communication to specific vehicles can be dynamically assigned to various geographic data centers, as the vehicles move around geographically.

BRIEF DESCRIPTION OF DRAWINGS

[0033] Figure 1 shows a block diagram of a system for allowing developers to create applications for specific features and functionality to be integrated with one or more vehicles of vehicle databases, in accordance with one embodiment.

[0034] Figure 2 illustrates one embodiment where a system component is provided, for interfacing with applications, in accordance with one embodiment.

[0035] Figure 3 illustrates an example where the system component, including the systems and control interfaces and associated API are linked or associated to a number of applications to define a custom configuration, for one embodiment.

[0036] Figure 4 illustrates an example of an array of applications that can be provided for use with the vehicle that a user is customizing to provide a customized configuration, for one embodiment.

[0037] Figure 5 illustrates a system and use diagram, of the configuration of the user interface, in accordance with one embodiments of the present invention.

[0038] Figure 6 illustrates an example of user interfacing with a display in the dashboard of vehicle, in one embodiment.

[0039] Figure 7 illustrates how the custom configuration that provides the interface defined by the user, is downloaded to the vehicle electronics and the display of the vehicle in one embodiment.

[0040] Figure 8 illustrates an example where a display device of the vehicle will illustrate and render different applications or application components in user-defined locations, in one embodiment.

[0041] Figure 9 illustrates an example of customization operations that can be performed, in accordance with one embodiment of the present invention.

[0042] Figure 10 illustrates an example of a custom interface, in accordance with one embodiment of the present invention.

[0043] Figure 11 illustrates an example of a system component with its APIs, and interface with a plurality of applications selected by the user, in accordance with one embodiment.

[0044] Figure 12 illustrates an example of apps and system selections features, in accordance with one embodiment of the present invention.

[0045] Figures 13A-13A illustrate examples of different user interfaces that can be defined by the user, in some embodiments.

[0046] Figure 14 illustrates example flowchart, of operations performed to generate a customized user interface for vehicle, in accordance with one embodiment of the present invention.

[0047] Figure 15 illustrates another example, where a user uses a portable device to access the user profile, for one embodiment.

[0048] Figure 16 illustrates an example of synchronizing other applications to a vehicle display, which may be customized by the user, for one embodiment.

[0049] Figure 17 illustrates example where the user holding a portable device can synchronize data from the portable device directly with the display of the vehicle, in one embodiment.

[0050] Figure 18 describes a system in which a user interacts with a model view controller software environment useful for processing APPS using APIs on vehicles with vehicle operating systems capable of processing computer code, in accordance with one embodiment.

[0051] Figure 19A describes how vehicle on board computer with input out put system useful for accepting input, processing input and displaying results in

conjunction with stored computer readable programs or functions in the forms of APPs may be structured, in accordance with one embodiment.

[0052] Figure 19B describes one example of how stored data and function declarations may be compiled to provided intermediary access to a vehicle's computer controlling vehicle systems, in accordance with one embodiment.

[0053] Figure 19C describes a set of computer readable and executable code that can be compiled together by a third party APP developer in the form of an APP, in accordance with one embodiment.

[0054] Figure 20 describes the stepped flow of events as a user interacts with an APP, in this case, an HVAC APP, in accordance with one embodiment.

[0055] Figure 21 Describes further ways an APP may take, process and produce results, in accordance with one embodiment.

[0056] Figure 22A describes an ecosystem where an APP in conjunction with a vehicle API may work together to make assumptions, make decisions and take actions, in accordance with one embodiment.

[0057] Figure 22B describes how one of many types of inputs into an assumption and reasoning logic module can be compiled over time, in accordance with one embodiment.

[0058] Figure 22C describes one example of what an assumption and reasoning logic module may produce using the data points collected on an ongoing basis in Figure 22B, in accordance with one embodiment.

[0059] Figure 22D describes an example list of decision the decision and action engine may take based on information provided by the assumption and reasoning logic module and sets of assumptions created, in accordance with one embodiment.

DETAILED EMBODIMENTS

[0060] Embodiments of the present invention define methods, systems and apparatus for use in vehicles. The methods, systems and apparatus include electronics of vehicles that drive display devices in vehicles and communicate wirelessly with Internet services.

[0061] The Internet services provide access to cloud services. The cloud services provide access to user accounts and access to settings, configurations, applications and other customization defined by the user. Customization can include user interface customization of a vehicle display or displays. The customization can include the ability to select specific applications (APPS) to be activated by the vehicle and interfaced via the display or displays, voice input, touch input, etc. The customization is also provided with a learning engine, that learns use by the user, and automatically implements settings or programming to aspects of the user interface. The programming can include automatic programming at certain times, days, months, years, etc., and can be updated or molded over time as the user continues to use the vehicle UI.

[0062] In one embodiment, a user can access cloud services for a vehicle manufacturer and identify the particular vehicle from selected choices. The user can then identify a customization profile for the vehicle by defining the look and feel of a UI display, arrangement of vehicle controls on displays, add and associate third party APPS to the vehicle display, and save the configuration.

[0063] The configuration, in one embodiment, is saved to the profile of the user. In one embodiment, the profile is saved on a database of a specific vehicle manufacturer that offers the customization option. In still other embodiments, once a configuration is saved to the profile account of a user, that configuration can be shared to other vehicles

of the user. In still other embodiments, when a user buys a new car, the custom configuration can be transferred either entirely or partially to the new vehicle. In some embodiments, if the vehicle has more or less system functions, the customization can be adjusted automatically or the user can be provided with options to update the customization to add or delete features. In one embodiment, the customization will be facilitated via a website. In one embodiment, the website may be of the vehicle manufacturer. In one embodiment, the website of the vehicle manufacturer can allow the user to add APPS that are created by third parties. The third parties can create APPS that communicate with APIs of the system components of specific vehicles of the manufacturer. Once APPS are selected, the user can add them to the custom user interface (UI) display.

[0064] The user can also be allowed to arrange the APPS or icons of APPS in a specific custom arrangement that is saved to the user's profile. In one embodiment, the user's profile can also be run on various vehicles, other than those owned by the user. For instance, if the user is renting a vehicle and the vehicle has access to cloud services, the user can enter his user name and password (or other identifiers), which log the user into the cloud services and saved profiles. The saved profiles will then enable logic to build a custom UI for the user based on the vehicle being driven. In one embodiment, the system components and APIs of the system components of the rented vehicle can be paired or linked to the user's saved APP selections.

[0065] The user's saved UI configuration may also be transferred to the display of the rented (or other vehicle) vehicle. A best-fit configuration can also be generated using the user's profile selections, so that the configuration provided for the other vehicle will closely resemble or appear as it does for the configured vehicle. In other embodiments, the user's use metrics can be monitored. The use metrics can include use of APPS, use

be of system components of the vehicle, use of the vehicle, environment conditions, and historical actions taken by the user via the input/output controls of the vehicle (e.g., buttons, levers, keys, fobs, display selections, display interface actions, communication actions, etc.).

[0066] These historical actions can then be used to define learned actions. The learned actions can be analyzed to change configuration settings in the user's saved profile. For instance, if the user uses a particular APP every day at a particular time, that APP icon can be surfaced to the display or preset to start. The APP can then provide information to the user at about the same time the user normally needs the information. Other historical use patterns can be monitored and such data can be saved to the user's profile. The data can then be used by algorithms that build assumptions based on historical inputs by a user as well as environmental inputs, location inputs, vehicle diagnostic inputs, internet connected marketing deals, the user's calendar, traffic conditions as well as news. The assumptions the algorithm builds are then processed into decisions and actions by an additional algorithmic process to activate local or remote audio and visual alerts, change vehicle systems, display information on a vehicle's displays and request a decision from a user locally or remotely to complete an action.

[0067] A number of embodiments are described below, with reference to specific implementations that refer to vehicles, but such implementations should be broadly construed to include any type of vehicle, structure or object. Without limitation, vehicles can include any type of moving object that can be steered, and can include vehicles that are for human occupancy or not. Vehicles can include those that are privately owned, owned by corporations, commercially operated vehicles, such as buses, automobiles, trucks, cars, buses, trains, trolleys, etc. Example vehicles can

include those that are combustion engine based, electric engine (EV) based, hybrids, or other types of energy source vehicles.

[0068] A cloud processing system, as described herein, will include systems that are operated and connected to the Internet or to each other using local networking communication protocols. A cloud processing system can be defined as an interconnected and distributed physical or virtual software defined network that utilizes virtual or physical processing and storage machines that enable various applications and operating systems to facilitate the communication with and between various client devices (vehicles, user devices, structures, objects etc.). The communication with and between the various client devices will enable the cloud processing system to deliver additional processing information, data, and real-time metrics concerning data obtained from other processing systems as well as client feedback data. The distributed nature of the cloud processing system will enable users of various vehicles, structures and objects to access the Internet, and be presented with more flexible processing power that will provide the requested services in a more effective manner.

[0069] The processing systems can be defined from various data centers that include multiple computing systems that provide the processing power to execute one or more computer readable programs. The processing of the computer readable programs can produce operations that can respond to requests made by other processing systems that may be local to a vehicle's electronic system. For example, a vehicle can include electronics that utilize memory and a processor to execute program instructions to provide services.

[0070] In other embodiments, the electronics of a vehicle can synchronize with a user's portable electronics. The user's electronics can include, for example mobile devices that include smartphones, tablet computers, laptop computers, general-purpose

computers, special purpose computers, etc. The various computing devices of the vehicle, and or the computing devices of the user (smart devices) can be connected to the Internet or to each other. Provided that a user has access or account access to the cloud service, the cloud processing services on the Internet can provide additional processing information to the electronics of the vehicle.

[0071] The wireless communication can include cellular tower communication that couples and communicates through various networks to the Internet, to provide access to cloud processing 120. Other methods can include providing Wi-Fi communication to local Wi-Fi transmitters and receivers, which communicate with cloud processing 120. Other types of communication can include radio frequency communication, such as 802.11.ac, 802.11ad and subsequent wireless networking protocols, Bluetooth communication or combinations of Wi-Fi and Bluetooth. It should be understood that vehicle electronics can communicate with cloud processing 120 via any number of communication methods, so long as exchanges of data can be made with cloud processing 120 from time to time.

[0072] The communication can be made by vehicle electronics while the vehicle is on or when the vehicle is off, so long as communication and processing circuitry of vehicle electronics has a power source. The power source can include battery power that powers vehicle electronics to communicate with cloud processing 120 when vehicle is turned off. When vehicle is turned on, the battery that drives vehicle electronics can be recharged.

[0073] Figure 1 shows a block diagram of a system for allowing developers to create applications for specific features and functionality to be integrated with one or more vehicles of vehicle databases. As shown, developers 102 create APPS 104 which are provided to a vehicle manufacturer 106. The APPS, in one embodiment, can be

reviewed by the manufacturer to determine if they are safe to play in the vehicle or can add restrictions. The restrictions can include, for example, only allow access when the vehicle is in “park” mode, stopped, or access may be enabled by passengers.

Passengers may be verified for presence, before enabling features for the passengers.

[0074] The applications provided to the vehicle manufacturers can also verify functionality and approve aspects of the application to be provided to an applications database. Users of vehicles, made by the manufacturer, can then access a website to select specific applications for addition to their vehicles. In one example, an Internet site 110 may therefore be managed by or for the vehicle manufacturer. User account profiles 112 can be managed to provide access to APPS of an app portal 114. In other examples, the site 110 can be managed by third party companies, partner companies that cooperate with a vehicle manufacturers, and/or internet companies that provide some or all of the backend or front end services and cloud storage and processing.

[0075] The vehicle manufacturer may also manage or provide a vehicle type database 116, or provide data for the database 116. As the vehicle manufacturer makes updates to existing APPS, systems or adds new vehicles to its vehicle lines, the vehicle type database may also be updated accordingly. Updates can also be forwarded to the vehicle over time or can be automatically installed. The updates, in one embodiment, can provide new UI features, controls, etc. As shown, the app portal 114 may include a plurality of applications that have been developed by developers 102 and/or also approved by the manufacturer of the vehicle.

[0076] The app portal 114 can also include APPS that are produced by the vehicle manufacturer or applications that are made for the vehicle manufacturer. Cloud services 120 includes various modules that allow customers of the vehicle manufacturers to access the vehicle manufacturers cloud services, and provide

interconnection to the vehicles in operation. In one example, a user 121 uses a computing device to access cloud services 120 in order to customize 124 the user interface of a vehicle. Broadly speaking, the user interface of a vehicle can include any display device in the vehicle.

[0077] In one embodiment, the display device can include displays that can provide instrumentation normally provided by standard vehicle indicators. The display device is not limited to a display normally placed in the center console, but can also any display screen. The display screen can also include that used to normally provide speed, and systems settings in the dash over the wheel. The display screen can also include other screens in a vehicle, such as those in passenger areas. Additionally, the user interface can also include display devices that display systems and auxiliary information, such as that provided by applications generated by developers 102, and/or applications produced by the vehicle manufacture. In one embodiment, the vehicle manufacturer will produce a software module for systems information that allow access to the system components of the vehicle.

[0078] The systems component is shown as “SYS” 128, which is interfaced with an application-programming interface (API) 130. The vehicle module 129 will therefore include the systems component and the API that will provide access and interface with applications produced by third parties and applications produced by the vehicle manufacture. In one embodiment, the system components interfaced with selected ones of the applications will produce a customized configuration 126. The customize configuration 126 will define the selected applications that were interfaced with the systems of the selected vehicle by the user 121. Once the customize configuration 126 has been selected (e.g., the APPS selected by the user to add or augment the current

system APPS or system controls), the user may be provided with options to customize the arrangement of the UI (user interface) 134.

[0079] The customization, in one embodiment includes enabling the user to customize the user interface by arranging specific components of the user interface and specific locations on the display. For example, a user is allowed to select specific components, modules, applets, widgets, code pieces, and arrange them in specific locations that are preferred to the specific user for ease-of-use, or frequency of use, or for a specific look and feel.

[0080] This arrangement of the UI will therefore enable specific applications to act as modules that can be arranged on a display. The applications can then expand or contract to occupy the entire display when selected and exposing additional functions buttons annualize when selected. As will be defined below, additional customization of the arrangement of the UI 134 will allow user interaction with the user interface to customize itself based on learned use activity (e.g., over a history period) by the user.

[0081] In one optional embodiment, a user is allowed to associate a smartphone or portable device having applications with the customization configuration 126, in operation 136. For example, if certain applications are already loaded on a smartphone or portable device that is proximate or in the vehicle, the applications can synchronize or pair with the applications that are part of the customize configuration 126. The capability of synchronizing certain applications with the customize configuration 126 of the vehicle, allows for an integration of applications known and used by the user on the personal device, and applications that were made part of the customize configuration 126, using the customization tools of the vehicle manufacturer.

[0082] Once the user has customized the arrangements and has associated any portable device applications to the customized configuration 126, the custom UI may be transferred to the user account profile in operation 138. The transfer of the customize UI to that user account profile can include saving specific identifier information, application information, and any customization desired by the user for that specific vehicle or plurality of vehicles. Once the custom UI has been saved to the user account profile database 112, the user can then transfer or the manufacturer cloud services 120 can transfer the profile and custom UI to the vehicle in operation 140.

[0083] The transfer of the custom UI to the vehicle can be made by Internet connection between the vehicle electronics and the Internet 110. As shown in figure 1, the transfer of the custom UI to the vehicle 160 can occur once the customization has occurred. In one embodiment, the customization configured by the user 121 can also be saved to the user account of user 121 in a database of the manufacturer. If the user 121 then buys another car from the same manufacturer, the custom user interface can be transferred to the other vehicle in a seamless manner. If the other vehicle has additional features not provided by the earlier, a mapping algorithm provided by cloud services 120 can adjust the settings for the new vehicle to match or substantially match those of the earlier vehicle based on the user's preferences. In one embodiment, the matching can be a best-fit or compatible scenario, which provides the user with substantially similar configuration. The configuration can then be updated by the user if the custom settings or configurations made by the cloud services do not meet the users desire or configuration.

[0084] Figure 2 illustrates one embodiment where a system component 129 is provided, for interfacing with applications. In one embodiment, the system component 129 includes a definition of systems and control interfaces (CIs). The systems can

include a number of standard systems utilized, which are commonly provided in manufacturing settings of vehicles by vehicle manufacturers. These systems are provided with corresponding control interfaces, which enable access to the system components. The control interfaces, for example, may enable access to the functionality provided by each of the system elements. For example, if the system is a radio, the radio will be provided with control interfaces or a control interface that enable functional access to the features of the radio. Functional features can include for example, volume, station selection, seek, pause, base, balance, storing of stations, etc. Other system features will be provided with their corresponding control interfaces, which will be then accessible via an application programming interface (API) 130.

[0085] The API provides a defined method and structure for accessing the various control interfaces of the system elements of a vehicle. Other types of systems can also include add-on components, plug-ins, such as those that may be downloaded to the vehicle from third party companies, from the manufacturer, or installed by the manufacturer automatically (or with pre-permission). Still further, other systems can include displays, which may be part of the vehicle. The displays can be provided with a control interface to enable the API to access the display functionality. In one embodiment, a vehicle can have a number of displays. The number displays can be, for example, the main dashboard for vehicle, a center console of the vehicle, a rear display, a passenger display, a glass display, a mirror display, a heads-up display, glasses of the driver, the windshield of a vehicle with display capability, a window of the vehicle, a touch surface of the vehicle, or portable devices link or synchronized to the vehicle electronics that provide access to the display system and control interfaces via the API 130.

[0086] As illustrated, the system component 129 may be defined by a vehicle manufacturer for a specific vehicle type. In one embodiment, a vehicle website 190, or third-party site may provide access to system component definitions for specific vehicles. In one example, the vehicle website 190 may be provided by a vehicle manufacturer 180. The vehicle manufacturer 180 may provide a listing of the types of vehicles sold by the manufacturer, and the various years for those vehicles as model types and functionality in each model change over time. In one embodiment, a user can visit the vehicle manufacturer 180 via websites or a cloud service, and select the vehicle to obtain the system component 129. In one embodiment, a particular vehicle type and year of vehicle may make use of more than one system component 129 if the manufacturer provided more than one system component or update.

[0087] Figure 3 illustrates an example where the system component 129, including the systems and control interfaces and associated API are linked or associated to a number of applications to define a custom configuration 200. Custom configuration 200 was defined by allowing a user to select various applications that will be integrated with to provide supplemental content or functionality to the vehicle. In one embodiment, the applications can also replace application functionality provided by the systems in system component 129.

[0088] For example, an application can be selected by the user to provide a custom radio interface, which replaces the radio interface provided by the vehicle manufacturer. In still another example, an application can be provided to replace the temperature meters with custom temperature meters, and provide additional data on the display not provided by the standard vehicle manufacturer user interfaces.

[0089] In still another embodiment, the application selected by the user can define complementary functionality that will function in conjunction with the system

components. In this example, the application functionalities that are paired with the system component 129 to define the custom configuration 200 will provide a hybrid user interface that is custom to the user. The customization is defined by the user, for example, by selecting specific applications, selecting different background colors, wallpapers, for the user interfaces, selecting different input interfaces, adjusting the location and positioning of application components displayed on a vehicle display, and programming the various application elements and functions to operate and provide feedback based on user-defined programming.

[0090] In still another embodiment, the custom configuration can be defined by the user to provide a different background color on different days of the week. The background color can be customized or replaced with pictures or photographs customized and selected or uploaded by the user. In this way, the user interface, system components, and applications installed on the vehicle will provide a customized look and feel that is defined by the user for the vehicle, and additional functionality will cooperate and function with the systems of the vehicle by providing the mapping to the API to each of the applications that are selected by the user.

[0091] In still another embodiment, the applications can function alongside system components without requiring the applications to interface directly with manufacturers systems or the control interfaces. In this scenario, applications can function and be placed in the user interface of the custom configuration in the same locations set by the user.

[0092] Figure 4 illustrates an example of an array of applications that can be provided for use with the vehicle that a user is customizing to provide a customized configuration. As illustrated, the applications 104 provided in a menu or listing 114 show particular applications that can be made accessible to the user for the selected

vehicle that is being customized. In one embodiment, depending on the vehicle being customized, a different subset of applications will be provided to the user for selection. The subset of applications provided to the user will be those that are known to operate or interface with the selected system components of the selected vehicle.

[0093] In one embodiment, the custom configuration 200 will define a custom interface 202, that will be rendered on a display of a vehicle or on more than one display of vehicle. In one embodiment, the applications that are provided for selection in listing 114, may include third-party produced applications as well as applications produced by the vehicle manufacturer. Still further, the applications may be add-on applications that provide additional functionality to existing applications or existing system configurations. In still other embodiments, the applications can be defined as applets, plug-ins, widgets, code subsets, skins, code, or combinations of one or more thereof.

[0094] Figure 5 illustrates a system and use diagram, of the configuration of the user interface, in accordance with one embodiments of the present invention. As shown, applications 114 may be selected by a user that wishes to generate a custom configuration for a vehicle. In one embodiment, the user may go to a vehicle website 190 where the user may select a vehicle system component that matches the vehicle that the user wishes to customize. In one embodiment, the user would establish a user account in a cloud service of the vehicle manufacturer, or a third-party site that provides customization features for the vehicle manufacturer.

[0095] The cloud services 120 may provide interface customization 206 tools that will allow the user to select the application 114, select the system component for the vehicle, and arrange the selected applications, arrangement of the applications on the display screen, settings for the different applications, etc., to thus define a custom

configuration for the user interface. The custom configuration will then be saved to a user profile database 112, which saves the custom configuration and provides access to the custom configuration for updates from time to time by the user, or for updates provided by the vehicle manufacturer.

[0096] In one specific example, a user 121 can visit a website, an app, or a portal to customize a vehicle display 210 using tools provided by a website that allows the customization. The tools can include pull-down menus, selection icons, text entries, radio buttons, arrangement and customization feature selectors, program settings, etc. The user can access the website using any user device. The user device can also include setting the custom configuration via a vehicle 160. In general, the configuration can be made using any device that has access to the Internet.

[0097] In operation 220, the user will select a vehicle using the tools provided by the website. Selecting the vehicle will allow the correct selection of the system component for that vehicle, and any other updates or parameters defined by the vehicle manufacturer. The systems for the vehicle user interface will then be identified in operation 222. A tool than be provided to allow selection of the apps to add to the interface in operation 224. As mentioned in this disclosure, the user can select any number of applications to add to the custom configuration. From time to time, the user can select additional applications to add to the custom configuration or removed from the custom configuration. In operation 226, the user customization for the user interface will be received including the defined applications and systems.

[0098] In operation 228, the custom configuration will then be generated and can be assigned to the user profile of a user account, in a database(s) of websites handling the cloud services 220. In some embodiments, the website may be hosted in a distributed manner, using virtualization and distributed data centers. The distributed data centers

can then communicate data and process operation to the vehicle to execute the applications and system components, and provide resources from third-party applications and applications over the Internet.

[0099] The generated custom configuration can then be transferred to the vehicle 160 and operated using vehicle electronics 162. Vehicle electronics 162 can also include a display. As mentioned above, the display can be a single display or a plurality of displays. The displays are configured to generate images for various screens, selections, icons, buttons, controls, and received touch input and communicate text information and other data to users.

[00100] Figure 6 illustrates an example of user 121 interfacing with a display 162 in the dashboard of vehicle 160. In this example, the display 162 will produce a user interface 250 that requests the user to input a user ID. The user ID can be any credentialing type input. The credentials can include usernames and passwords, keys, alphanumeric entries, biometric inputs, voice inputs, retina scan inputs, fingerprints, face recognition, etc. In figure 6, user 121 will enter the user ID which would then send a custom interface request to cloud services 120, over the Internet. As mentioned above, vehicle 160 is connected to the Internet, or is connected to the Internet at particular times. When the vehicle 160 is connected to the Internet, the request can be sent to cloud services 120, to request the custom configuration for the user.

[00101] A user having an account with cloud services 120 will have previously defined custom configurations that may be downloaded or accessed without download for the specific vehicle. The vehicle ID would be sent to the cloud services 120 by the vehicle upon sending the request for the custom configuration.

[00102] Figure 7 illustrates how the custom configuration 200 that provides the interface defined by the user, is downloaded to the vehicle electronics and the

display 162 of the vehicle 160. The display 162, as noted above, is only an example display, and display can be of any size and can include multiple displays. For simplicity, a single display 162 is shown in figure 7.

[00103] In this example, the display 162 is populated with user interfaces for the system as well as the applications. As shown, app interfaces may be presented in specific locations in the user interface as well as system interfaces that are provided in other specific locations in the user interface. In one embodiment, the definition of where the specific user interfaces for the systems and the apps are to be defined, is set by the user during the configuration process.

[00104] In other embodiments, the positioning and layout or arrangement of the specific components of the user interface, whether they be system interfaces or app interfaces, may be custom arranged by the system over time based on use patterns. The use patterns of the user can be learned by the system so as to arrange the various system components and app components in various locations of the display 162. In other embodiments, certain interfaces will be surfaced (e.g., shown in prominent locations) on the display at certain times of day, certain times of the week, certain times of the month, certain times of the year, etc. Better placement of the app components and system components, and programming of data into the components can be optimized over time based on learning the input patterns provided by the user to user interface.

[00105] For example, if the user always views the weather in the mornings at 8 o'clock or 9 o'clock and a.m., then the weather icon or interface will automatically start to be surfaced on the display during those times. If the user plays rock 'n roll rock music on the weekends and classical music during the weekdays, this preference will also be learned. Learning of these preferences will act to custom define the layouts and placement of the icons and user interfaces on the display over time. In still other

embodiments, the specific placement, location, and arrangement of the apps, system components, buttons, controls, etc., will be preset and fixed by the user based on predefined settings.

[00106] These predefined or learned settings can be saved to the database in cloud services and associated with the user account. Updates to the settings can then be made at any time by accessing cloud services over the Internet using any device, whether the devices are in the car, of the car, a portable device, a home computer, a work computer, a tablet, a smart phone, a smart watch computer, etc. Also shown in figure 7 is an embodiment where a user's smart phone or mobile device is synchronized with the user interface of the vehicle 160. In this embodiment, the user's portable device 210 can synchronize and upload content and UI controls from applications stored and running on the portable device 210. This provides for safer driving, as the controls shown on the vehicle display can be restricted based on driving or operation status.

[00107] In one embodiment, the user can custom configure to have content from applications running on the portable device 210 to be displayed in the vehicle displayed 162 in a specific location. This location on the display can then be synchronized or mirrored to that part of the display based on the configuration. In still other embodiments, the custom configuration can determine to synchronize an application running on the portal device to occupy the entire display 162. For example, if the user wishes to use his own telephone calling interface and contacts that are stored on the portable device 210, that information can be populated and mirrored to the display device 162, while still using other system components or other applications of the vehicle in the background or in a separate screen that is not currently active. In this example, the portable device 210 as well as the vehicle electronics can communicate

with cloud services 120 at the same time, or when specific functions, data or communication is required.

[00108] Figure 8 illustrates an example where a display device 162 of the vehicle will illustrate and render different applications or application components in user-defined locations. In this example, different parts of the display contain different components or applications, which are custom designed or laid out by the user in the custom configuration. In one embodiment, the applications can be third-party applications, which are custom designed to operate with the system component of the vehicle. In this manner, the user can decide to get third-party apps 104 to replace certain applications provided by the system.

[00109] However, the user that defines the custom configuration can decide to maintain certain system component applications 128. The custom interface 260 may therefore include a hybrid of third-party applications and system applications, all designed to be laid out arranged and provide the look and feel/functionality desired by the user. In this illustration, a third-party app 104 is provided for a calendar. The calendar may be synchronized with a user's online calendar, which automatically populates the users data to the vehicle user interface. The radio app may also be a third-party app, which may have radio stations that are a mix of land-based radio and Internet radio. Scores from time to time, the user can then arrange the location of the specific applications to different portions of the display.

[00110] Still further, certain applications can increase in size when being used or decrease in size to enable selection at a later time. For example, selecting the temperature system component may expand the system component to a larger space, thus temporarily removing other displayed components. The user can also select other buttons to access other system controls, other apps, or modify or add applications or

system controls. When modifications are made, the modifications are saved to a user database and profile of the user, as managed by cloud services.

[00111] Cloud services will therefore allow any future modifications to be made to the custom configuration at any time and from any computer connected to the Internet. Still further, the custom configuration can be transferred to a second vehicle. If the custom configuration is transferred to a second vehicle, the system can select the system components for the second vehicle and attempted do a best match of applications available for the second vehicle that resemble or match the ones used in a first vehicle. Specific settings, arrangements and other features may also be transferred to a second vehicle, by simply transferring the custom configuration to a second vehicle.

[00112] Figure 9 illustrates an example of customization operations that can be performed, in accordance with one embodiment of the present invention. In one example, a standard radio interface 302 is shown having standard radio functions, such as text controls icons and the like. If a user does not like the radio interface 302 provided by the manufacturer of the vehicle, the user may choose to replace the radio system 302 with a third-party application 104, that provides a customized radio interface. In one example, the application 104 can provide an interface 304, which has a number of sections or areas. These areas can be customized in one embodiment, or can be defined by the developer of the third-party application 104.

[00113] If the sections are customizable, the user can select certain portions of interface 304 to be provided by another third-party application 104. For example, interfaces can be used to customize the entire system component, such as the entire radio 302 interface, or the customize radio interface 304. The interface can be itself

customized by adding sub applications or subcomponents of code that define smaller user interface sections for the custom system configuration of a radio.

[00114] Once specific modules have been customized, either by selecting pre-customized third-party applications, or by constructing a custom module, these modules can be arranged to define a custom placement or arrangement of user interface modules to be displayed on a vehicle display 162. The customized display 260 can therefore be defined by a plurality of modules, which may be provided or obtained by adding third-party applications to the custom interface design by the user, or by moving or arranging existing user interface components provided by the manufacturer to specific locations on a screen arrangement. Other customization features can include, adding custom backgrounds such as images, pictures, and other multimedia components to the display.

[00115] In one embodiment, the custom interface can include smaller icons/GUIs that identify specific applications that were added to the custom interface, that when selected expand to provide the functionality of the applications. The applications can be minimized or maximized on the screen. In one embodiment, the functions of the specific applications illustrated in the display 162 will be monitored and restricted depending on safety considerations while driving. For example, if the interfacing functionality requires more interactivity with the display, or requires a reading of text or inputting text, those functions will be disabled during operation of the vehicle. Once the vehicle comes to a stop, or is placed in Park, certain of these functions will be activated. In other embodiments, other safety considerations will allow for applications to shift from outputting text to outputting audio or voice. The input can also be changed from touchscreen, button touches, selections, and/or voice input. In still other embodiments, safety considerations can allow certain user interface

components to move about the display to provide easier reading while driving or automatic conversion of text to audio.

[00116] For example, content being displayed in the center panel display of the vehicle, can be automatically shown in the dashboard display region of the vehicle, such as in front of the steering wheel. In still other embodiments, some content or display data can be moved from the center console or the display in front of the steering wheel to the windshield of the vehicle in a heads-up display area. Accordingly, algorithms executed by the applications and applications of the manufacturer, can cooperate to provide functionality to the application features and interfaces, while maintaining safety parameters defined by rules. The safety parameters will therefore allow content of the user interface to be shifted around to various displays of the vehicle, or translated to voice or audio at certain points in time.

[00117] Figure 10 illustrates an example of a custom interface 260, in accordance with one embodiment of the present invention. As shown, the custom interface 260 includes various components or modules. The various components and modules can be arranged or defined by suggested arrangements during the customization by the user. As mentioned above, the customization by the user can be facilitated by allowing access to tools and website applications that allow selection, arrangement, dragging, color definition, size definition, positioning definition, and other custom controls. The custom controls can also be used to define settings for the various components. The settings can include programming and custom alarms, settings of when particular types of music should be played, radio station selection, pre-turn on of the vehicle at certain times to provide heat to the vehicle or cool the vehicle in

advance, and other remote access, monitoring, image detection, security features, and associated settings.

[00118] These settings and customizations can be made through the web/cloud services and tools provided by the website of, for example the manufacturer of the vehicle. In one embodiment, the cloud services provided by the manufacturer can be provided by a partner of the manufacturer. The partners of the manufacturer can include software companies that develop, host, or manage certain functionality provided by the vehicle manufacturer. In other embodiments, the partner software companies can integrate tools or components with tools and components of the vehicle manufacturer. This provides for an integration with one or more cloud services, software services, Internet services, and services provided by systems of vehicles or systems of the vehicle manufacture. In either case, whether the software and logic is designed and constructed by one or more entities, the cloud services provided by the vehicle manufacturer or the website that provides the tools for customization will appear as a unified simple to use interface for the user. As mentioned above, the cloud services can provide databases for saving the user profile and data associated with the user account.

[00119] The user profile can include settings made by the user, customizations made by the user, identification of applications purchased or added to the vehicle customizations, etc. Still further, the user profile data can be part or be associated with the user account. In this manner, the user that customized a user interface can access the Internet at any time, whether through the vehicle or through any other computing device having access to the Internet and make changes, modifications, or access control features of the vehicle remotely. In one embodiment, the profile of the user can be accessed from any vehicle, such as rented vehicles or shared vehicles. Settings and profile data can then be shared for a period of time on any vehicle and use data on that

vehicle can be stored.

[00120] Continuing with the example of figure 10, it is shown that several of the components of the custom interface 260 can include applications from 3rd parties, or applications and controls provided by the vehicle manufacturer. In one embodiment, an application provided by third-party, such as an online calendar, can be synchronized with the user's calendar managed by a 3rd party or stored by a 3rd party on a website. For example, if the user uses a cloud service to store his or her calendar, the calendar appointments can also be displayed on the vehicle interface, and are synchronized to the users global calendar settings that are accessible through any computing device. In one embodiment, the daily planner can include data or information for the user, such as reminders to purchase or get certain things. If while the user is driving around those certain things can be purchased or obtained from local merchants, the user can be provided with notifications of availability of those particular things or goods the user desires to purchase.

[00121] In still other embodiments, advertisers can provide data to the user that is relevant to the user, such as discounts for the goods or services the user wishes to purchase. In still another embodiment, an application can be provide for the vehicle that provides a user the ability to set and to find certain things, such as goods and services the user needs. As the user drives around, and algorithm determines whether certain goods or services are available in the proximity of the vehicle's driving actions. If the vehicle approaches or is near certain goods and services, and such goods and services are advertised to have a discount or availability, the user can be notified on the user display, or by audio output by the vehicle. This functionality can be enabled or disabled

on demand, as programmed by the user in the application that's added to the user interface.

[00122] Still in figure 10, it is shown that other applications can be embedded into other applications. For example, the standard system interface for the temperature control and fan of the vehicle can be customized to add additional features. For example, in addition to the controls for the standard vehicle settings, the user can also be provided with controls to access or add additional applications. These additional applications can be embedded or overlaid on other applications. In one example, an embedded application can allow user to embed a weather application, which is synchronized to an Internet service. In other embodiments, other applications such as phone messages, notes and the like, can be synchronized with an Internet application or with a local device.

[00123] The local device might be the user's mobile phone, the user's computer wristwatch, the user tablet computer, the user's laptop computer, or the mobile device of a person inside the vehicle. In one embodiment, data from the local devices can be synchronized locally to the display of the vehicle in selected regions. These selected regions of the display can be defined by the user during customization, or can be defined automatically by the system based on sizing areas on the display, relative to other applications or features displayed on the one or more displays of the vehicle.

[00124] Figure 11 illustrates an example of a system component with its APIs, and interface with a plurality of applications 126 selected by the user. The user can select add or delete applications from time to time to define custom addition of apps to the system, or to replace system controls. Once the user has selected the certain applications, a custom arrangement of the apps and systems on the user interface

display can be enabled. As mentioned above, the customer arrangement, definition, placement 308 of certain components or applications on a display can be customized by the user.

[00125] Also noted is that the system can automatically arrange or move certain applications or components on the display depending on size constraints, or other features that are synchronized with system settings. In operation 310, the user can be provided with tools to enable preview of the user interface and allow for modifications from time to time. The customization can then be saved to the user profile or user account in operation 312. In operation 314, the custom configuration can then be transferred to the UI settings of the vehicle to allow for display, in accordance with the arrangement configuration, selection of applications configuration, and rules enforced by the vehicle manufacturer to enable safety and use of the applications and features.

[00126] Figure 12 illustrates an example of apps and system selections features 210, in accordance with one embodiment of the present invention. In one example, the user can be provided with a number of applications to select when accessing cloud services over the Internet 110, for addition to a custom configuration. In one embodiment, once the user has selected the vehicle type, manufacturer and brand of the vehicle, the user is provided with an automatic listing of certain applications that are available for that vehicle for customization. In this illustrative example, which is not exhaustive of all possible types of user interfaces and selection menus and presentation types, the user can be provided with icons that illustrate example user interface that can example apps that may be added to the vehicle or vehicle customization. As noted above, the customization can be provided with apps, as well as widgets, or code that

can be added to the display. The apps and code can be provided by 3rd parties or the manufacturer of the vehicle, or both.

[00127] Figures 13A-13A illustrate examples of different user interfaces that can be defined by the user. Again, these different configurations and arrangements are provided simply as an example. Additionally, although only one displays being shown, the configuration can be made for multiple displays in a single vehicle. Most commonly, the display is one that can be located in the center console of a vehicle. However, often the display can also be incorporated as the main display in the dashboard, which shows and illustrates common dashboard system readings and data. These can include, for example, the speed of the vehicle, the RPMs of the vehicle, the fuel level of the vehicle, the temperature of the vehicle, the battery life of the vehicle, the battery and range of an electric vehicle (EV), and related data. Thus, the customization can be for any display in the vehicle, including displays in passenger areas of vehicle.

[00128] As shown in figures 13, various ones of applications can be located in different locations of a display screen. Although the display and features of the display are described as being applications, the icons can represent access to the applications and the icons can expand to encompass the entire screen or part of the screen at various times of use. In one embodiment, the user can customize the display directly from the display, by selecting more apps, can view different screens by selecting a next screen, can access system applications, can access the phone, can provide for other customizations and layouts, can update the profile. As noted earlier, the custom configuration can be set for a particular user.

[00129] When the user is not using the vehicle, the custom configuration can be turned off or locked out for another session. Once the user wants to start a new session, the user can log back in and the custom configuration returns. In other embodiments, the custom configuration will automatically turn off when the user is not driving the vehicle or has not logged into the vehicle. In other embodiments, the custom configuration can be automatically turned on when the user is detected. The user can be detected using biometrics, login credentials, image detection of the face, fingerprint detection, retina scans, etc. Still further, the custom configuration can be transferred to other vehicles.

[00130] If the user wishes to use his or her custom configuration in another vehicle, the user can login to the custom configuration or user account from another vehicle. If the other vehicle does not have all the system components needed to define the custom configuration, the custom configuration can be supplemented with other similar components automatically. In other embodiments, the custom configuration can be transferred from one vehicle to another, or when the user buys a new vehicle. In another embodiment, the custom configuration can be adjusted based on the driver. The custom configuration can also be preset remotely from the Internet, using the cloud services. The custom configuration can also be configured to provide limited use of certain systems or the vehicle, such as when a guest is driving the vehicle. In other embodiments, restrictions can be placed on the vehicle speed, location of driving, and automatic notifications for the user or the master user of the vehicle. The master user of the vehicle can have a master account with administrator credentials.

[00131] In still another embodiment, the vehicle can be loaned to a child of driving age (under 21/18 years of age), and the child can be provided with restricted use of the vehicle. When the child exceeds or does not follow the restrictions of the vehicle,

automatic notifications can be provided to the user that is the administrator of the vehicle. The notifications can be by cell phone, smartphone, tablet computer, mobile device, text messages, phone calls, commendations of phone calls and text, audio messages, audible sounds, vibrations, and commendations thereof. History use of the vehicle can also be maintained in cloud services. The history use can provide the user with information as to where the vehicle has been, the speed or events, violations that occurred when use of the vehicle etc. The configuration can also provide messages to the driver warning the driver of when the vehicle has exceeded a restriction, or is approaching a restriction in use, driving area, speed, etc.

[00132] Figure 14 illustrates example flowchart, of operations performed to generate a customized user interface for vehicle, in accordance with one embodiment of the present invention. In one embodiment, the method begins by enabling access 402 to a vehicle site to enable selection of vehicles to customize for user interface. The access to the vehicle site, may be granted by supplying credentials for accessing a user account, or establishing a new user account. The vehicle sites may, in one embodiment, include cloud processing to enable access to features provided by the website including features provided by other services and software accessible over the Internet.

[00133] In operation 404, the method provides controls to enable user input to select systems and placement of control interfaces on-screen views or pages of screen displays. The screen displays can have various configurations, placements, sizes, number of pages, tabs, etc., and the user can provide controls for some or all of the interfaces and controls in certain locations. In operation 406, selection can be enabled for third-party applications. The third-party applications can be selected from the vehicle site, or by providing links to third-party sites. The third-party applications can be pre-identified by the site and displayed to the user if they are compatible with the

particular vehicle selected. In another embodiment, the third-party applications can all be shown to the user whether or not they are compatible with the vehicle. Upon binding/pairing or attempting to find application for the vehicle, compliance as to whether the applications operate or comply with the particular vehicle can be made.

[00134] As mentioned in this disclosure, certain third-party applications can be reviewed by the vehicle site administrators before they are made available to users for selection. In other embodiments, the third-party applications can be approved or disapproved. In still other embodiments, the third-party applications can be augmented with restrictions made by the vehicle manufacturer, or dictated by law. The restrictions can be applied, based on the anticipated interfacing with the vehicle interfaces, to ensure safety during driving. For instance, if a particular application requires entry of text, navigation of controls, or other activities that would distract the driver during operation of the vehicle, such vehicle controls or application controls for application interfaces can be temporarily disabled. In some embodiments, when the vehicle has come to a stop or is place to park, certain controls or interfaces can be re-enabled. In operation 408, the tools provided by the vehicle site or third-party site can provide for customization of the layout of the display screens of the user interface.

[00135] The customization can include organizing or laying out system interfaces as well as application interfaces, such as those interfaces provided by 3rd parties. In operation 410, interface rules are applied to determine if the system interfaces can be replaced with third-party application interfaces, while providing access to the control interfaces via the APIs of the systems. For example, if the user wants to provide a custom speed indicator, the speed indicator must be compliant (via APIs and/or mapping) with the system interfaces so that the speed readings can be populated to the third-party application. In operation 412, rules can be integrated with

or applied to the applications and system user interfaces for when the vehicle is moving. As mentioned above, such rules can limit interactivity with certain user interfaces while the vehicle is moving to prevent unsafe driving. In operation 414, the custom user interface is saved to the user profile.

[00136] The user profile may contain settings, such as selections of the user interface components associated with the system of the vehicle, as well as user interface is provided by third-party applications. In addition, the user profile can contain and store settings provided by the user. The settings provided by the user, as mentioned is this disclosure can also be learned settings based on use. The settings can further include remote access settings, as well as settings allow the user to control vehicle components from a remote location or a remote computer. The setting can also include providing access to the user account to view historical driving patterns, recent driving activities, the performance of the vehicle during specific driving sessions, the performance of specific vehicle components, etc.

[00137] In operation 416, the custom user interface configuration can then be transferred to the vehicle. The custom configuration, as mentioned above is stored in the database of the vehicle manufacturer, or a database held by a 3rd party that cooperates with the vehicle manufacturer to provide cloud services. The database, in one embodiment, is a network accessible storage which allows access to the user to program and modify the user interface using any computer or device having access to the Internet, including the vehicle itself or a third-party vehicle. The method then proceeds to operation 418 where the custom user interface can be activated in managed for Internet connectivity for components of the custom interface. For example, the vehicle's Internet access protocols can be set, or registered with an Internet provider or service provider for the cloud services. The service provider for the cloud services can

be the vehicle manufacturer, a company cooperating with the vehicle manufacturer, a third-party company, or combinations thereof.

[00138] In operation 420, the method can also enable local communication with mobile devices that may be in the vehicle. The enablement may be provided by allowing synchronization with the computing system of the vehicle, or with the computing communications of the portable device. For example, the local communication can be paired automatically, based on a preset pairing process where pairing keys are entered. This provides for automatic settings and synchronization when the user enters the vehicle with the portal device. As mentioned above, user interfaces associated with applications loaded on the user's portal device can also synchronize to the display screens of the vehicle, as predefined by the user.

[00139] Figure 15 illustrates another example, where a user 121 uses a portable device to access the user profile. The user profile, as mentioned above, can be managed by the cloud processing 120. The cloud processing may include a user profile database 502 (and other databases not shown) that allows the user to synchronize settings for various profiles, such as for "my car A", and "my car B", or the like. In one embodiment, the custom configuration can be transferred from vehicle to vehicle and for a period of time. The period of time can be a driving session. The driving session can be for a trip, a day, a week, a rental period, a lease period, etc. If the new vehicle receiving the profile has different system components, a re-mapping of system components to applications can be made. In some embodiments, alternate applications can be plugged in for the new vehicle which provide functionality similar to the application in the earlier vehicle.

[00140] Accordingly, the disclosed methods may allow users to add various vehicles to the user profile, including cars from different brands 520, such as Brand X and brand Y. In the illustrated example, the user profile for the user 121 may include custom user settings, custom interface styles, custom applications, and other custom settings and learned settings as described in this disclosure.

[00141] The users also able to select various applications from an application database 504, which may provide a plurality of applications from vehicle manufacturers, and the user can select applications for the vehicle types selected. In one embodiment, certain applications can include native vehicle functions as well as control and mapping protocols to allow the applications to interface with native system controls through appropriate map APIs. In operation 510, the custom user interface can be generated using cloud processing with the preferences set by the user, the applications, the native vehicle controls, and the customer arrangements. The profile that was generated can then be synchronized to the vehicle, such as car A.

[00142] The synchronization may include downloading of the customized interface from cloud services to the vehicle. In other embodiments, part or all of the customization created on the portable device or other computer can be transferred to the vehicle directly, without requiring transfer from cloud processing. In other embodiments, the synchronization or transfers can include operations performed by portable devices local to the vehicle, computing devices on the vehicle, computing devices of cloud processing, or combinations thereof.

Figure 16 illustrates an example of synchronizing other applications to a vehicle display, which may be customized by the user. As shown, 602 shows a number of data collection and data interface modules, that can interface with third-party applications or applications executed on the Internet by cloud services or third-party cloud services. As

shown, in the case of an electric vehicle, data associated with charge unit location data 620 can be collected from charge unit install points 608. The charger unit install points can also be providing charging discounts 606, which can then be transferred to data manager 602. Traffic data 222 can also be collected, whether the vehicle is electric or nonelectric.

[00143] Charge grid load 624 data can also be collected, for example for electric vehicle data. Charge grid load 624 can obtain data from a grid power demand source 610, which can include power companies local utilities and the like. Route based discounts 626 can also be provided to the user, by collecting mapping data 614 as well as discounts provided by goods and services providers in the marketplace. Mapping data 630 can also be managed, to monitor the location of the vehicle in relation to goods and services that may be provided when the vehicle is in proximity. In some embodiments, discount data, advertisements, sales, goods and services offers, etc., can be provided to the user automatically based on the vehicle's location.

[00144] In other embodiments, the user can provide settings in the user interface that identifies which type of offers or discounts or information the user wishes to receive. In some embodiments, alerts regarding offers and discounts can be provided to the user in an audio manner, to avoid driving distractions. Live traffic data 616 can also be provided to the data manager 602, as well as geo-data 612. The data manager 602 is in communication with cloud services 120, to provide these services to computer 640, smart devices 642, remote location 644, and a display of the vehicle 162.

[00145] The display the vehicle can be interfaced with logic that runs on vehicle electronics. The vehicle of products can include memory and processors that execute instructions, operating systems, API processing, application management, telecommunications, network accessing, local communication with wireless devices,

and general communication with the Internet. Route request can also be provided at the demand of the user via the display 162, and instant routing 604 can provide routes to the user based on data collected and managed by data manager 602.

[00146] Figure 17 illustrates example where the user 121 holding a portable device can synchronize data from the portable device directly with the display 162 of the vehicle. The display the vehicle can be a display on the dash of the vehicle, or any other location as mentioned in this disclosure. As mentioned herein, the vehicle electronics will be provided with communication with cloud services 120 provide access to the customize displays, customize settings, and customized services provided to the user as a vehicle drives.

[00147] Figure 18 describes a system in which a user interacts with a model view controller software environment 1800 useful for processing APPS using APIs 130 on vehicles with vehicle operating systems 129 capable of processing computer code. The model view controller paradigm 1800 shows basic interaction, control, processing, and updating of data useful for manipulating and viewing resulting actions by a vehicle running an APP in such a system. Such a system useful for running APPS on vehicle operating systems will accept inputs by a user 121, cloud services 120 via data streams, vehicle systems feedback and data streams 1812 used by a controller 1804 that may constantly poll electrical, capacitive and physical sensors, and input streams to detect if interactions 1808 such as network passive updates, network active updates, user touch, user speech, user input, user selection among others has been triggered.

[00148] Each input 1804 will then trigger manipulation of the system's model 1802 portion of the APP software paradigm thus invoking stored routines within APPS 104 which then in turn interact with the vehicle's API system 130 built upon the

vehicle's operating system 129. Depending on the app presented to the user 121, the input may trigger stored routines or functions on APP software or operating system level restricted stored routines or functions.

[00149] After the processing of stored procedure code is manipulated with arguments provided by the controller 1804 inputs, visual and or sensory results are presented to the user in the view 1806 portion of the model view controller paradigm. These sensory outputs, data streams, electrical signals may all be translated as additional options, results, dynamic updating, audio or visual graphical user interface changes 1810 on any of the user's connected display devices. The user will notice these results visually or audibly but may also feel or detect changes in the vehicle's mechanical systems. Updates from the model 1802 may also be used to toggle vehicle settings 1814 which in turn may invoke changes in the vehicle's physical, mechanical and electrical systems 128.

[00150] Finally, the system controller 1804 may receive additional updates from the vehicle systems affected or additional user 121, cloud services 120, vehicle systems feedback inputs 1812 to re-engage the user in a cyclical fashion. If no inputs are sensed, the system's controller will continue to poll its electrical and data I/O systems for input on a continuous basis.

[00151] The model view controller paradigm 1800 described is one example of the software input output lifecycle that may be used to invoke, manipulate, process, update portions of computer readable code such as APPS 104 using an intermediary API 130 to communicate with the vehicle's operating system 130. However, APPS 104 may be run on physically wired, wirelessly connected or remote devices having processing abilities to translate the computer readable code in APPS into actionable

invocations on one or more vehicles in order to facilitate or utilize the vehicle's electrical and mechanical systems in prescribed or customizable fashions.

[00152] Figure 19A describes how vehicle on board computer with input output system 1900 useful for accepting input, processing input and displaying results in conjunction with stored computer readable programs or functions in the forms of APPs 104 may be structured. Although system 1900 describes one way to provide vehicle on board computing power to run APPs 104, the arrangement of the vehicle computer 1906 may be altered or arranged in differing fashions with differing connection routing in order to achieve the same. In this example, vehicle on board computer 1906 may be comprised of components such as the network interface 1910, memory 1912, a central processing unit 1914, an input output buffer useful for streaming data 1916, storage 1908 having the ability to store computer data in long term or short term fashion useful for stored computer code procedures in the form of an operating system 129, intermediary stored procedure code in the form of APIs 130, stored subsets of computer code procedures APPs 104 interacting with API 130 as an intermediary to the operating system 129.

[00153] In this example, the vehicle computer 1906 has the ability to transmit, receive and process information using wired or wireless connections. One such wireless connection is provided by a wireless data sending and receiving antenna 1928 connected to a network interface 1910 useful for pairing with and communicating data with portable or stationary wireless devices which may or may not be part of a network 1902. Such wireless devices include but are not limited to wireless displays 210b, portable smart phones 210a, portable computers, 210c and even stationary objects, structures, buildings, toll bridges, other vehicles etc. The vehicle's network interface 1910 through antenna 1928 may also communicate with cloud services 120 to receive

instructions from a remote location that invokes stored programs such as APPs 104 on the vehicle's computer. The vehicle may also send and receive data wirelessly in order to establish a connection with a peer-to-peer ad-hoc network. Invocations may result in output data streams interpreted by wireless devices 210b, 210a, 210c as well as wired devices such as wired displays 210d or vehicle integrated display devices such as windshield heads up projected display or integrated glass displays 210e. All data streams generated by APPs 104 stored on the vehicle's computer may also be triggered by wired devices such as vehicle sensors 1918, vehicle electrical systems 1920, vehicle electrical systems 1922, engine control systems 1924, vehicle diagnostics systems 1926, user input as well as environmental input.

[00154] A user and or vehicle may find system 1900 useful in one example, where the user drives the vehicle past an electronic toll bridge where a fee is required to pass the toll bridge. The vehicle's computer will communicate wirelessly as it passes the stationary structure transmitting and receiving information with it as it drives by. The user's vehicle may have an APP 104 installed on the vehicle computer 1906 that can process the input using the computer's wireless antenna 1928, network interface 1910, input output system, 1916 automatically responding to the toll bridge with payment information. Once the payment is received and processed, the APP 104 receives information from the stationary wireless toll taking device which is then stored either locally on the vehicle's storage 1908 or remotely using cloud services 120. The results of the transaction are then sent via data stream from the compute code running on the APP 104 to a display device(s) where the user can visually confirm that the toll was paid, accepted and show the user's remaining balance all through the GUI displayed for APP 104.

[00155] Figure 19B describes one example of how stored data and function declarations may be compiled to provided intermediary access to a vehicle's computer controlling vehicle systems 1950. Such routines, data and functions may be arranged in such a way that limited access is given to third party code on APPs 104 to manipulate certain unrestricted operating system functions and vehicle systems. Such a method of providing the intermediary allowed stored function set to third party code can be referred to as an API 130.

[00156] In this example of an API 130, computer readable code is arranged in such a fashion that the type of API is described and in this case, an API that allows third party control of the vehicle's HVAC system is declared. A declaration may be useful for reserving the vehicle's computer long term and short-term memory in order to run stored procedures. The shown declaration 1954 describes an example set of data that may reference memory locations and their contents. The contents of these memory location may be modified by stored procedures 1956 or functions.

[00157] This HVAC API 130 has the ability to store data relating to the vehicle's temperature, status, target temperature, split zone temperate, data from electrical and mechanical sensors, calendar dates, error information among others. Invocable functions 1956 are the methods by which a third party APP 104 may manipulate data 1954 on board a computer. Free access is not given to the restricted data on a vehicle's computer, thus a structured method or methods are described for user by third party APP developers. These functions 1956 that may or may not take arguments in order to execute may include functions in the example HVAC API that update temperatures for both the left and right or given zones of the vehicle, toggle are conditioning, allow visual skins on the APP GUI, manipulate schedules and displays etc. The HVAC API 130 described is one example of how one API can control one

vehicle system. There may be variations of the APIs for multiple vehicle systems or one superset API that allows access to all of the vehicle's systems through stored procedures or methods.

[00158] Figure 19C describes a set of computer readable and executable code 1970 that can be compiled together by a third party APP 104 developer in the form of an APP. The APP 104 uses structured programming languages to execute stored functions allowed by the vehicle's system API 130. In this example, the APP is a third party HVAC app that allows a GUI to be displayed to a user giving them the option to adjust the temperature on the left or right side of the vehicle up or down. In this case, the APP's GUI has provided a data stream to the APP letting it know that the user has selected to set the temperature on the left side of the vehicle to 80 degrees and the right side of the vehicle to 76 degrees. The APP 104 will then use functions available from the vehicle's API 130 to manipulate the data on the vehicle's storage system which in turn will be electrically polled by sensors, data streams etc. to manipulate the vehicle's electrical and mechanical HVAC systems. The user will notice the result visually by the data provided by the APP to the GUI as well as environmentally as the temperature is changed in the vehicle.

Figure 20 describes the stepped flow of events 2000 as a user interacts with an APP 104, in this case, an HVAC APP 104. The GUI shown for APP 104 describes the first step 2002 where a user physically interacts with a sensor, screen, voice system etc. polling to see if an input has been received. The user's input in 2002 has been interpreted by the app to raise the temperature on the left hand side of the vehicle to 80 degrees and maintain the temperature on the right hand side of the vehicle at 76 degrees. This input invokes step 2004, which calls a stored function on the APP 104 that is API 130 allowable with arguments. The stored function may invoke other

helper or associate functions within the API 130 in step 2006, which all in turn invokes restricted computer readable code at the operating system and or kernel level in step 2008. These invocations will then in turn command mechanical and or electrical systems in step 2005 in order to achieve the requested response in step 2002. The results of the commands on the vehicles systems are based back to the vehicle's operating system or kernel level in step 2012 which then updates data on the API 130 in step 2014 that the APP 104 is polling, such as updating the display to show the resulting temperature in step 2016. The results of a function that is invoked at the API 130 level updating the display produces a data stream translatable and displayable by the vehicle's screen showing the APP 104's GUI in 2018.

[00159] Figure 21 describes further example ways an APP 104 may take, process and produce results 2100. Figure 20 shows a way to interact with an APP 104 locally but a vehicle computer system may relay data, inputs and information to the APP while connected to a wide area network, local area network, cloud process 120 or private cloud. A remote action to invoke change on an APP 1808 may be initiated via a network and pass to the APP running on the vehicle 160 using the vehicle's antenna 1928 or wired interface. An APP 104 running virtually on a network or cloud services 120 may also take input remotely and process the results accordingly. Some of the inputs and results 2102 that an APP can take and produce locally or remotely include but are not limited to the set 2104 that can receive an action, react to an action, control an action, manipulate data models, report changes to a view or GUI, record events or incidents, learn the types of requests being submitted, learn the times of request being submitted over time, learn the days of the year the requests are being submitted over time, generalize and interpret requests, assume user intent in order to automatically

invoke changes, automatically and pre-emptively act on behalf of a user, fine tune learned user behavior etc.

[00160] The learned behavior (e.g., learned settings that provide for automatic programming) can be assigned to particular applications, particular sub-features of applications, to particular native system features of the vehicle, or combination of one or more thereof. The learned settings can also be managed via an interface, which shows to the user settings that have been learned and provides the user with options to modify learned settings. The modifications of the learned settings can be made via the vehicle display or any other device having access to cloud services. The learned settings can also be communicated to the user via notifications. Such as, *“We noticed you like your truck temperature at 3 pm to be 60 degrees? Please confirm,”* or *“We noticed you like your car temperature at 8 am to be 75 degrees, this will be preset for you automatically,”* or *“We have detected your favorite settings, please login to your account to see settings we have programmed for you or make updates,”* or other similar notifications via the vehicle or to any connected device over the Internet.

[00161] In other cases, notifications may not be sent. In some cases, the settings will just occur automatically. In some cases, the settings can be manually adjusted by the user way from the auto settings. In such cases, the manual setting can be learned and can be provided more weighting since the user took the time to correct an auto setting. Thus, various levels of weighting or importance can be given to leaned settings.

[00162] Figure 22A describes an ecosystem where an APP 104 in conjunction with a vehicle API 130 may work together to make assumptions, make decisions and take actions 2200. API and APP code together can be arranged in such a fashion that creates an assumption and reasoning logic module 2216. This Assumption and

reasoning logic module can take inputs from various systems and data streams including but not limited to GPS 2206, calendars 2208, traffic conditions 2204, local news 2202, past data of user behavior and interaction 2210, vehicle diagnostics 1926, user preferences 2214, user login profiles 506, environmental interpretations by sensors 2212, marketing deals 2224 among others. These inputs can be local and physical or remote and abstract via a network. The assumption and reasoning logic module 2216 compiles data from these sources to invoke decisions and actions on a decision and action engine 2218.

[00163] This decision and action engine 2218 has the ability to execute on what the assumption and reasoning logic module has determined needs to be done. The decision and action engine has the ability to produce alerts, both local, on screen, audibly, visually or remotely on a remote display device 210a-e using a data network. The decision and action engine 2218 also has the ability to change vehicle controls automatically on behalf of a user without user action based on assumptions made by the assumption and reasoning logic module 2216. Additionally, the decision and action engine has the ability to request a decision from the user preemptively in order to change vehicle controls.

[00164] This may be achieved locally or remotely requiring input from a user to proceed. For instance, the assumption and reasoning logic engine has determined that the user may want to have his or her car automatically started at 7:55 am because the user typically starts the car at 8 am. Starting the car at five minutes early will allow the system to heat the vehicle to the user's typical liking. However, the assumption and reasoning logic may have only reached a level of confidence of 75% where 80% confidence is required to act without user input. Thus, the system, being only 75% sure that the car should be turned on will automatically send the user an alert requesting a

decision on whether or not to turn the vehicle on. Once the user 121 provides an decision remotely on their remote device 210a, the decision engine 2218 updates the assumption module 2216 so that it can augment it's assumptions for an updated level of confidence on the next action trigger. These actions by the user automatically and continually update the assumption and reasoning logic module 2216 in order to fine tune the level of confidence on acting without user input and learn the user's behavior for future decisions.

[00165] Figure 22B describes how one of many types of inputs into an assumption and reasoning logic module 2216 can be compiled over time. Although inputs can come from many sources, this particular example focuses on input into the assumption and reasoning logic module 2216 from past data originating and triggered by user behavior in order for module 2216 to learn. Past actions 2210 are logged into a database either locally on the vehicle computer or remotely which are fed into to module 2216. In this example, data about when the user's actions are stored, along with unique identifiers that will allow assumptions to be made in the future. These identifiers include times, dates, rates, capacities, temperatures, frequency, degrees, distance, etc. In this example, the system has been keeping track of when the user has been starting his or her engine in the morning on weekday sand weekends. The system harvests all data points associated with given events. These data points 2210 are purely mined data points and no assumptions or reasoning occurs at this point. This data will be used by the assumption and reasoning logic 2216 to determine future actions.

[00166] Figure 22C describes one example of what an assumption and reasoning logic module 2216 may produce using the data points collected on an ongoing basis in Figure 22B. Over time, using inputs that are continually harvested by a user's action, assumptions are made and refined to aid in making decisions for a user in

advance or behalf. Module 2216 has taken the inputs provided by 2210 past data and behavior to determine that before a decision can be made, the user's local or network-stored calendar should be polled to determine how the user's schedule might impact the system's pending actions. For instance, if the system had determined that the user typically starts his vehicle at 8am but the user's calendar shows a meeting at 730am located at a location that does not match the current location, the vehicle may assume that the car should be started at 725. The system will determine its level of confidence of the decision and may poll the user for a decision.

[00167] The system, by using prior data points has stored assumptions based on conditions, the day it is, the temperature of the environment and historical events, that the user will most likely start the vehicle's engine between 803am and 805am, and if the temperature is in the 30s inside the vehicle, the user will most likely set the interior temperature to between 70 and 80 degrees, it is not likely that the user will use the air conditioning unit, if there is ice on the windshield, the user will most likely defrost the windshield for 7 minutes before departure, the user usually drives between 15 and 18 miles at this time of day, the user typically starts the vehicle again in the afternoon between 505pm and 510pm, if the temperature is in the mid 70s, the user usually activates the AC and sets the temperature to 65 degrees, typical weekend behavior, the user typically makes frequent stops, does not have a set time the vehicle is started, uses certain APPs at certain times and has a history of certain destinations as recorded by GPS.

[00168] Figure 22D describes an example list of decision the decision and action engine 2218 may take based on information provided by the assumption and reasoning logic module 2216 and sets of assumptions created. The decision and action engine 2218 will attempt, using a degree of confidence to anticipate what the user will

want to do in terms of engine start and stop, location destinations, preferences of temperature, driving habits and poll vehicle capacities to ensure the intended path the user usually takes is attainable. For example, the user usually drives a distance in the morning at a certain time, however, the vehicle's fuel supply will not allow for that distance to be traveled. Thus, the decision and action engine polls the user as a reminder that the user should begin their intended travel sooner than usual to allow for refueling time.

[00169] In one embodiment, at a remote location, a user is able to access a user interface for an application, which provides users access to user accounts. A user account can be for a user and the user can add one or more vehicles, objects, data or appliances for remote reporting, viewing and control. In one embodiment, a user is an owner or user of a vehicle. The user can register the vehicle with a remote service.

[00170] The remote service can be accessed over the Internet, such as via a website or application of a portable device. The remote service can provide a multitude of cloud services for the user, such as remote control features, remote viewing services, remote alarm controls, remote camera activation, remote audio/video recording of the vehicle (i.e., areas around the vehicle and inside the vehicle). In one embodiment, the vehicle is able to connect to the Internet (e.g., when the vehicle engine is off, on, and/or is occupied or un-occupied) to allow a user, via a remote cloud service, to access features of the vehicle. The vehicle can be accessed when running, when parked, when stopped, when moving, etc. The vehicle and its audio recording devices and video cameras can be accessed from remote locations, to allow users to remotely communicate with the vehicle or with people riding or residing inside the vehicle.

[00171] The remote communication can also allow a person to communicate remotely with people standing outside (or inside) of a vehicle. For instance, if a user is

accessing his or her vehicle from a remote location, cameras installed in and/or on the vehicle allow the remote user to see a person standing proximate to the vehicle. The remote user can then communicate with a person standing proximate to the vehicle using microphones and speakers of the vehicle.

[00172] In some embodiments described herein, vehicles, structures and objects may include circuitry and communication logic to enable communication with a cloud processing system over the Internet.

[00173] In one embodiment, the services provided by the electronic systems of a vehicle can include services that access the various components or subsystems of a vehicle, such as door locks, service histories, user profiles, audio settings, entertainment settings, mapping functions, communications systems, telecommunication synchronization systems, speakers, heating and cooling functions, auto-engine start/shut-off remotely via smart devices, remote heating/cooling initiation, remote face-to-face conferencing, etc. The electronic systems within a vehicle can also provide a user interface, such as a graphical user interface. The graphical user interface can include a plurality of buttons, controls and transceivers to receive input from a user. The input from a user can also be provided by voice input, facial recognition, eye-retina scans, fingerprint scans, a combination of biometrics, or via a capacitive or regular touchscreen contained or displayed within the vehicle, the vehicle's glass, doors, dashboard, etc.

[00174] In one embodiment, vehicles can maintain information regarding where they are, where they are heading and their destination maintained which is maintained by GPS and navigation systems on board. The information collected and maintained by every vehicle may be mutually exclusive, meaning that only each individual vehicle is aware of its own heading, rate of speed and current location. This

information, in one embodiment is crowd sourced and/or crowd shared/consumed for use in for accident avoidance or other communication. By networking vehicles within a certain radius together, all individually location-aware vehicles become aware of all other vehicles in their sphere of influence. Vehicles may network with vehicles in their range using wireless communication systems such as but not limited to Wi-Fi, Wi-Gig LTE, cellular, radio, near field communication or other methods.

[00175] In one embodiment, the communications of the vehicle and electronics of the vehicle will enable direct communication with a user of the vehicle. The user of the vehicle can include, for instance, the owner of the vehicle, a driver of the vehicle, or any third party having access to the vehicle (either to drive the vehicle, to monitor the vehicle remotely, etc.)

[00176] The access to the data can also be encrypted to prevent unauthorized access to the data. GPS and mapping services can also be in communication with the cloud processing 120 provide data concerning the locations of the vehicles and activities that occurred to the vehicles when at particular locations. The cloud processing 120 can be access by the vehicles themselves using their electronics and communications, via mobile devices, from home, from work, etc.

[00177] In some embodiments, the vehicles may establish peer-to-peer links to facilitate fast transfer of data. In other embodiments, vehicles may link to each other using pairing algorithms that allow the vehicles to exchange data using WiFi, Bluetooth, near field communication (NFC), or some other short range communication protocol.

[00178] A user's APP homepage may also include dynamically updating sections in which the most important information at a given time may be displayed or

surfaced to a user. If a user has parked in a certain parking area, he or she may want to monitor metrics related to incidents that may have occurred to his or her vehicle, vehicles around his or her vehicle, any dynamically received alerts, as well as precaution levels. Additionally, a user may choose to configure his or her APP homepage to display the most pertinent audio and video feeds to their needs.

[00179] In one embodiment, the vehicles can communicate directly with each other via a temporary pairing process. The temporary pairing process can be automatically enabled when vehicles become too close to each other, for example. When this happens, local communication between the vehicles, such as a peer-to-peer connection, Wi-Fi connection, NFC connection, or Bluetooth connection can be established to enable the vehicles to share information concerning their proximity to one another. This local communication will enable one or both vehicles to take correction actions or alert a driver to change course or trigger automatic collision prevention measures (e.g., more aggressive notifications to one or both operators, slow the speed of one or more vehicles, change the driving direction of one or more vehicles, etc.). Once the close proximity communication occurs and some corrective action is made, the data regarding the occurrence and the actions taken can be communicated to the cloud system for storage. The information can then be viewed by a registered user having access to an account for the vehicle(s).

[00180] In one embodiment, a method for customizing a user interface is provided. The method includes receiving a request to customize a user interface of a vehicle and providing selection options to identify a vehicle type among a plurality of vehicle types. Each vehicle type is associated with system components native to the vehicle type and one or more of the control interfaces that can be mapped to an application programming interface (API). The method includes identifying a plurality

of applications available for the vehicle type, where each of the applications has a link to at least one of the control interfaces via the API of the system components. The method includes receiving selection of the vehicle type at cloud services, which interfaces with a website over the Internet or a backend of a website over the Internet. The method includes receiving selection of an application selected from the plurality of applications, the selection of the application is made so as to add an app interface for the application to the user interface of the vehicle. The method, at cloud services, generates a custom configuration of the user interface for the vehicle type that includes system interfaces for some of the system components native to the vehicle type and the app interface for the application. The custom configuration is saved to a user account, at a database in cloud storage associated with cloud services. In one embodiment, code for the custom configuration is transferred to a vehicle that is to be associated with the user account. The code of the custom configuration is defined to set a display of the vehicle to provide the user interface having the system interfaces along with the app interface, the method is executed by one or more processors.

[00181] In some embodiments, the method includes receiving a request to modify the custom configuration; enabling changes to the selection of the application, the changes including adding additional applications or removing the application; regenerating the custom configuration with the changes; saving the custom configuration to the user account, and transferring the custom configuration having the changes to the vehicle.

[00182] In some embodiments, the method includes enabling identification of a second vehicle for the user account, the second vehicle having a second vehicle type.

[00183] In some embodiments, the method includes processing a request to transfer the custom configuration to the second vehicle. The processing of the request

includes, automatically updating the system components for the second vehicle type, the system components of the second vehicle including more or less features based on the second vehicle type as defined by a manufacturer of the second vehicle; and determining if the application functions for the second vehicle type, and providing options to select an update for the application in response to processing the request to transfer the custom configuration when the application does not fully function for the second vehicle type.

[00184] In some embodiments, the manufacturer of the vehicle and the second vehicle is either the same or different.

[00185] In some embodiments, the method includes processing a request to use the custom configuration on a second vehicle. The processing of the request includes, receiving login credentials for the user account to enable the use of the custom configuration from the second vehicle, automatically updating the system components for the second vehicle type, the system components of the second vehicle including more or less features based on the second vehicle type as defined by a manufacturer of the second vehicle; and determining if the application functions for the second vehicle type, and if the application does not function for the second vehicle type, either omitting the application from the custom configuration or providing a replacement application for the application.

[00186] In some embodiments, the method includes maintaining a database of user accounts, each user account having one or more custom configurations of the user interface; processing a request to use a second custom configuration on the vehicle, the request being received from the vehicle upon entering credentials to access a second user account; transferring the second custom configuration to the vehicle for use while the credentials of the second user account are active on the vehicle, wherein the request

to use the second custom configuration terminates use of the custom configuration in favor of the second custom configuration.

[00187] In some embodiments, the method includes terminating a session of use of the custom configuration on the vehicle, termination of the session acts to, reset the display of the vehicle to provide the user interface with system interfaces that are default set by the manufacturer of the vehicle; or set a second custom configuration for a second user account.

[00188] In some embodiments, the display of the vehicle includes any one or more of a main dashboard display, or a center console display, or a headrest display, or a movable display, or a wireless display, or a wire-connected display.

[00189] In some embodiments, the method includes receiving a request to make changes to add or remove applications from the custom configuration.

[00190] In some embodiments, the method includes enabling a user interface tool to arrange some of the system components and app components of the application on a display, the arranging includes defining positional locations for graphical user interface (GUI) items of the custom configuration.

[00191] In some embodiments, the method includes enabling linking of one or more applications executed on a mobile device to be presented on the display of the vehicle in accordance with the custom configuration, the linking enabled upon pairing the mobile device with electronics of the vehicle.

[00192] In some embodiments, the method includes receiving user input via the custom configuration; learning patterns of user input over time; automatically programming one or more components of the custom configuration based on the learned patterns of user input.

[00193] In some embodiments, the method includes automatically adjusting positional locations for graphical user interface (GUI) items of the custom configuration based on the learned patterns; and saving the adjustments to the user account, the user account being saved in a database that is interfaced over the Internet with cloud services that execute code using one or more processors.

[00194] In some embodiments, the one programming of one or more components of the custom configuration includes automatically setting input based on times of day or days of week, or dates of month, or combinations thereof.

[00195] In some embodiments, the custom configuration of the vehicle is transferrable to a second vehicle.

[00196] In some embodiments, the custom configuration is saved to the user account in cloud storage, and cloud processing provides communication with the vehicle over the Internet.

[00197] In some embodiments, the cloud processing provides a website interface to enable selection of the vehicle type and the application to define the custom configuration and also enables updates to the custom configuration to add, delete or update applications to be associated with the custom configuration.

[00198] In some embodiments, the code for the custom configuration is transferred to the vehicle upon receiving credentials to access the user account from the vehicle so as to associate the vehicle to the custom configuration, the association of the custom configuration to the vehicle being for a period of time.

[00199] In some embodiments, the period of time is for a session that remains until logged out of the user account, or a second user account logs in to define a new session with a second custom configuration of the second user account.

[00200] In some embodiments, the vehicle electronics are programmed with a master account, the master account being in communication with cloud services over the Internet, the master account enabling use of the custom configuration with one or more restrictions.

[00201] In some embodiments, the restrictions include enabling, disabling or regulating system components of the vehicle, enabling or disabling certain applications of the custom configuration, wherein the restrictions being updateable over a website that enables remote configuration and monitoring of the vehicle using cloud services over the Internet for the master account, the master account enabling one or more user accounts to be used on the vehicle, such that one or more custom configurations are usable on the vehicle during respective sessions.

[00202] In some embodiments, the predefined code is application programming interface (API) for communicating with at least one control interface of the system component.

[00203] In one embodiment a computer implemented method is provided. The method provides providing access to cloud services over the Internet for customizing a user interface of a vehicle; providing selection options to identify a vehicle type among a plurality of vehicle types, each vehicle type being associated with system components native to the vehicle type; identifying a plurality of applications available for the vehicle type, each of the applications provided with code for linking to at least one control interface of the system components; receiving selection of an application selected from the plurality of applications, the selection of the application being made so as to add an app interface for the application to the user interface of the vehicle; generating a custom configuration of the user interface for the vehicle type that includes system interfaces for some of the system components native to the vehicle

type and the app interface for the application; saving the custom configuration to a user account in a database interfaced with the cloud services; and transferring the custom configuration to electronics of a vehicle from database, the custom configuration being defined to set a display of the vehicle to provide the user interface having the system interfaces along with the app interface, the method being executed by a processor.

[00204] The various embodiments may be embodied in computer readable media, which is saved in storage. The storage may be saved on cloud storage, data centers, or the like, which are accessible over the Internet. The access may be wired or wireless. In vehicles, the connection to the Internet may be wireless, and the connection can be continuous or non-continuous depending connection. Code on the vehicle electrons can execute at least some of the method operations when not connected and other operations are executed jointly between vehicle electronics (e.g., memory, code and processors of a vehicle) and cloud processing, which may implement one or more servers, either virtual or not.

[00205] It will be obvious, however, to one skilled in the art, that the present invention may be practiced without some or all of these specific details. In other instances, well known process operations have not been described in detail in order not to unnecessarily obscure the present invention.

[00206] The various embodiments defined herein may define individual implementations or can define implementations that rely on combinations of one or more of the defined embodiments. Further, embodiments of the present invention may be practiced with various computer system configurations including hand-held devices, microprocessor systems, microprocessor-based or programmable consumer electronics, minicomputers, mainframe computers and the like. The invention can also be practiced

in distributed computing environments where tasks are performed by remote processing devices that are linked through a wire-based or wireless network.

[00207] With the above embodiments in mind, it should be understood that the invention could employ various computer-implemented operations involving data stored in computer systems. These operations are those requiring physical manipulation of physical quantities. Usually, though not necessarily, these quantities take the form of electrical or magnetic signals capable of being stored, transferred, combined, compared and otherwise manipulated.

[00208] Any of the operations described herein that form part of the invention are useful machine operations. The invention also relates to a device or an apparatus for performing these operations. The apparatus can be specially constructed for the required purpose, or the apparatus can be a general-purpose computer selectively activated or configured by a computer program stored in the computer. In particular, various general-purpose machines can be used with computer programs written in accordance with the teachings herein, or it may be more convenient to construct a more specialized apparatus to perform the required operations.

[00209] The invention can also be embodied as computer readable code on a computer readable medium. The computer readable medium is any data storage device that can store data, which can thereafter be read by a computer system. The computer readable medium can also be distributed over a network-coupled computer system so that the computer readable code is stored and executed in a distributed fashion.

[00210] Although the foregoing invention has been described in some detail for purposes of clarity of understanding, it will be apparent that certain changes and modifications can be practiced within the scope of the appended claims. Accordingly,

the present embodiments are to be considered as illustrative and not restrictive, and the invention is not to be limited to the details given herein, but may be modified within the scope and equivalents of the description.

CLAIMS

1. A method, comprising:

providing access to cloud services over the Internet for customizing a user interface of a vehicle;

providing selection options to identify a vehicle type among a plurality of vehicle types, each vehicle type being associated with a system component native to the vehicle type, the system component providing native interfaces for the vehicle type;

identifying a plurality of applications available for the vehicle type, each of the applications provided with predefined code for communicating with at least one control interface of the system component;

identifying an application from the plurality of applications, the application providing an app interface to be added to the user interface of the vehicle;

generating a custom configuration of the user interface for the vehicle type that includes native interfaces provided by at least one system component native to the vehicle type and the app interface for the application, the custom configuration is saved to a user account in a database interfaced with cloud services over the Internet; and

transferring, wirelessly from the cloud services, at least part of the custom configuration to the vehicle to cause at least a portion of an image for the user interface to be rendered on a vehicle display, the method being executed by a processor.

2. The method of claim 1, wherein the custom configuration is transferred to the vehicle upon receiving credentials of the user account from the vehicle, or is

transferred to a second vehicle upon receiving credentials of the user account from the second vehicle, wherein when the custom configuration is transferred to the second vehicle the method includes identifying a system component that is native to the second vehicle to provide the native interfaces on the custom configuration.

3. The method of claim 1, further comprising,
receiving a request to modify the custom configuration;
enabling changes to the identified application, the changes including adding additional applications or removing the application;
updating the custom configuration with the changes;
saving the custom configuration to the user account.

4. The method of claim 1, further comprising,
enabling identification of a second vehicle for the user account, the second vehicle having a second vehicle type.

5. The method of claim 4, further comprising,
processing a request to transfer the custom configuration to the second vehicle,
the processing of the request includes,
automatically updating the system component for the second vehicle type, the system component of the second vehicle including more or less native interfaces based on the second vehicle type as defined by a manufacturer of the second vehicle;
and
determining if the application is compatible for the second vehicle type, and providing options to select an update for the application in response to processing the

request to transfer the custom configuration when the application is not compatible for the second vehicle type.

6. The method of claim 5, wherein the manufacturer of the vehicle and the second vehicle is either the same or different.

7. The method of claim 4, further comprising,
processing a request to use the custom configuration on the second vehicle, the processing of the request includes,

receiving login credentials for the user account to enable use of the custom configuration at the second vehicle

automatically updating the system component for the second vehicle type, the system component of the second vehicle including more or less native interfaces based on the second vehicle type as defined by a manufacturer of the second vehicle; and

determining if the application is compatible for the second vehicle type, and if the application is not compatible for the second vehicle type, either omitting the application from the custom configuration or providing a replacement application for the application with or without user input.

8. The method of claim 1, further comprising,
maintaining a database of user accounts, each user account having one or more custom configurations of user interfaces;

processing a request to use a second custom configuration on the vehicle, the request being received from the vehicle upon entering credentials to access a second user account;

transferring the second custom configuration to the vehicle for use while the credentials of the second user account are active on the vehicle, wherein a verified request to use the second custom configuration terminates use of the custom configuration in favor of the second custom configuration.

9. The method of claim 2, further comprising,
terminating a session of use of the custom configuration on the vehicle,
termination of the session acts to,
reset the display of the vehicle to provide the user interface with system interfaces that are default-set by the manufacturer of the vehicle; or
set a second custom configuration for a second user account.

10. The method of claim 1, wherein the vehicle display of the vehicle includes any one or more of a main dashboard display, or a center console display, or a combined main dashboard and center console display, or a glass surface, or a windshield display, or a window display, or a touch surface display, or a headrest display, or a movable display, or a wireless display, or a wire-connected display.

11. The method of claim 1, further comprising,
receiving a request to make changes to add or remove applications from the custom configuration.

12. The method of claim 1, further comprising,
enabling a user interface tool to arrange some of the system components and app components of the application on a display, the arranging includes defining positional locations for graphical user interface (GUI) items of the custom configuration, the user interface tool being provided via a website of the cloud processing that manages the user account.

13. The method of claim 1, further comprising,
enabling linking of one or more applications executed on a mobile device to be presented on the vehicle display of the vehicle in accordance with the custom configuration, the linking enabled upon pairing the mobile device with electronics of the vehicle.

14. The method of claim 1, further comprising,
receiving user input via the custom configuration;
learning patterns of user input over time;
automatically programming one or more components of the custom configuration based on the learned patterns of user input, automatic programming changing over time based on the received user input via the custom configuration and saved periodically to the user account in the database via a wireless connection to the Internet.

15. The method of claim 14, further comprising,
automatically adjusting positional locations for graphical user interface (GUI) items of the custom configuration based on the learned patterns; and

saving the adjustments to the user account, the user account being saved in a database that is interfaced over the Internet with cloud services that execute code using one or more processors.

15. The method of claim 14, wherein the programming of one or more components of the custom configuration includes automatically setting input based on times of day, or days of week, or dates of month, or times of year, or combinations thereof.

16. The method of claim 1, further comprising,
associating biometrics to the user account, the biometrics being used to monitor use of the vehicle and determine if the custom configuration is enabled, or if a guest custom configuration should be enabled, or if public custom configuration should be enabled, the user account includes profile data defining when particular configurations should be enabled based on the biometrics.

17. The method of claim 1, wherein the custom configuration is saved to the user account in cloud storage having the database, and cloud processing provides communication with the vehicle over the Internet via wireless Internet communication.

18. The method of claim 17, wherein cloud processing provides a website interface to enable selection of the vehicle type and the application to define the custom configuration and also enables updates to the custom configuration to add, delete or update applications to be associated with the custom configuration.

19. The method of claim 1, wherein the code for the custom configuration is transferred to the vehicle upon receiving credentials to access the user account from the vehicle so as to associate the vehicle to the custom configuration, the association of the custom configuration to the vehicle being for a period of time.

20. The method of claim 19, wherein the period of time is for a session that remains until logged out of the user account, or a period of inactivity, or when biometrics detects use by other than a person associated with the user account, or a second user account logs in to define a new session with a second custom configuration of the second user account.

21. The method of claim 20, wherein vehicle electronics are programmed with a master account, the master account being provided access communication with cloud services over the Internet, the master account enabling use of the custom configuration with one or more restrictions.

22. The method of claim 21, wherein the restrictions include enabling, disabling or regulating system components of the vehicle, enabling or disabling certain applications of the custom configuration, wherein the restrictions being updateable over a website that enables remote configuration and monitoring of the vehicle using cloud services over the Internet for the master account, the master account enabling one or more guest accounts to be used on the vehicle, such that one or more custom configurations are usable on the vehicle during respective sessions.

23. The method of claim 1, further comprising,
associating logins to the user account, the logins being used to determine if the custom configuration is enabled, or if a guest custom configuration should be enabled, or if public custom configuration should be enabled, the user account includes profile data defining which particular configurations should be enabled based on the logins, wherein the logins are made via the vehicle that communicates with cloud services via the Internet through a wireless link.

24. The method of claim 23, further comprising,
saving use data of the vehicle for each login, the use data further being linked to automatic notifications, such that certain use data triggers an automatic notification to an administrator of the user account, the notifications including text notifications, phone call notifications, web notifications, smartphone notifications, social network notifications, or combinations thereof.

25. The method of claim 16, wherein biometrics include one or more of image data of a driver's face, a passenger's face, a finger print, a retina scan, a signature, a gesture, or combinations thereof.

26. A method, comprising:
providing access to cloud services over the Internet for customizing a user interface of a vehicle;
providing selection options to identify a vehicle type among a plurality of vehicle types, each vehicle type being associated with a system component native to

the vehicle type, the system component providing native interfaces for the vehicle type;

providing a plurality of applications available for the vehicle type, each of the applications provided with predefined code for communicating with at least one control interface of the system component;

defining a custom configuration of the user interface for the vehicle type that includes native interfaces for components native to the vehicle type and an app interface for an application added to the user interface of the vehicle, the custom configuration being defined to cause rendering of at least a portion of a screen for the user interface on a vehicle display, the custom configuration being saved to a user account in a database accessible over the Internet with the cloud services,

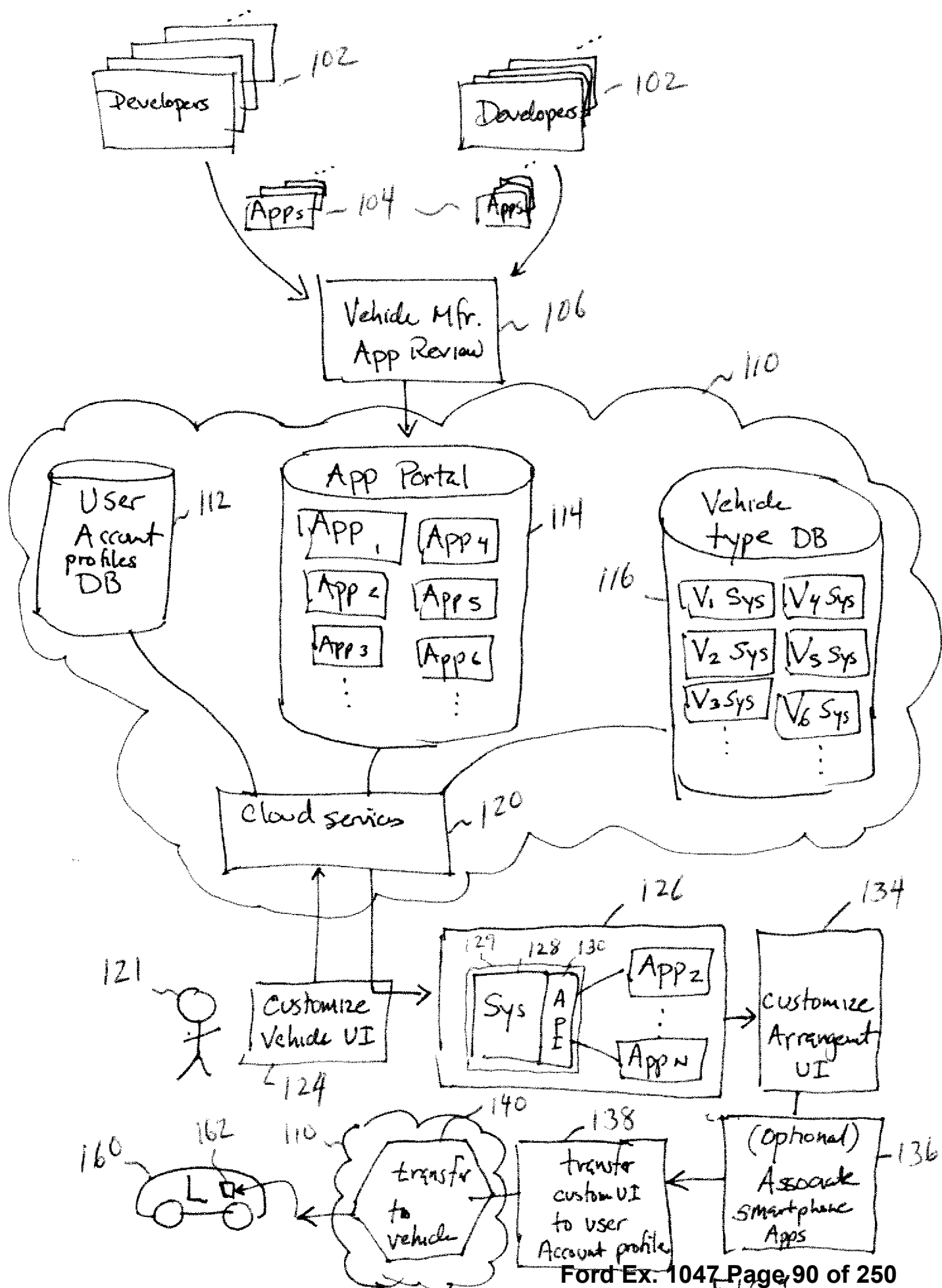
receiving user input via the user interface of the vehicle display, as defined by the custom configuration;

learning patterns of user input via the user interface over time; and

automatically programming one or more components of the custom configuration based on the learned patterns of user input, the automatic programming continuing to change over time based on the received user input over time, the changes to the automatic programming being saved periodically to the user account in the database, the method being executed by a processor.

ABSTRACT

Methods and systems are provide access to cloud services over the Internet for customizing a user interface of a vehicle. The method includes providing selection options to identify a vehicle type among a plurality of vehicle types, where each vehicle type is associated with a system component native to the vehicle type. The system component providing native interfaces for the vehicle type. The method includes identifying a plurality of applications available for the vehicle type. Each of the applications provided with predefined code for communicating with at least one control interface of the system component. The method generates a custom configuration of the user interface for the vehicle type that includes native interfaces for components native to the vehicle type and the app interface for the application. The methods also define a learning module that learns user input to the user interface and provides for automatic programming of features.



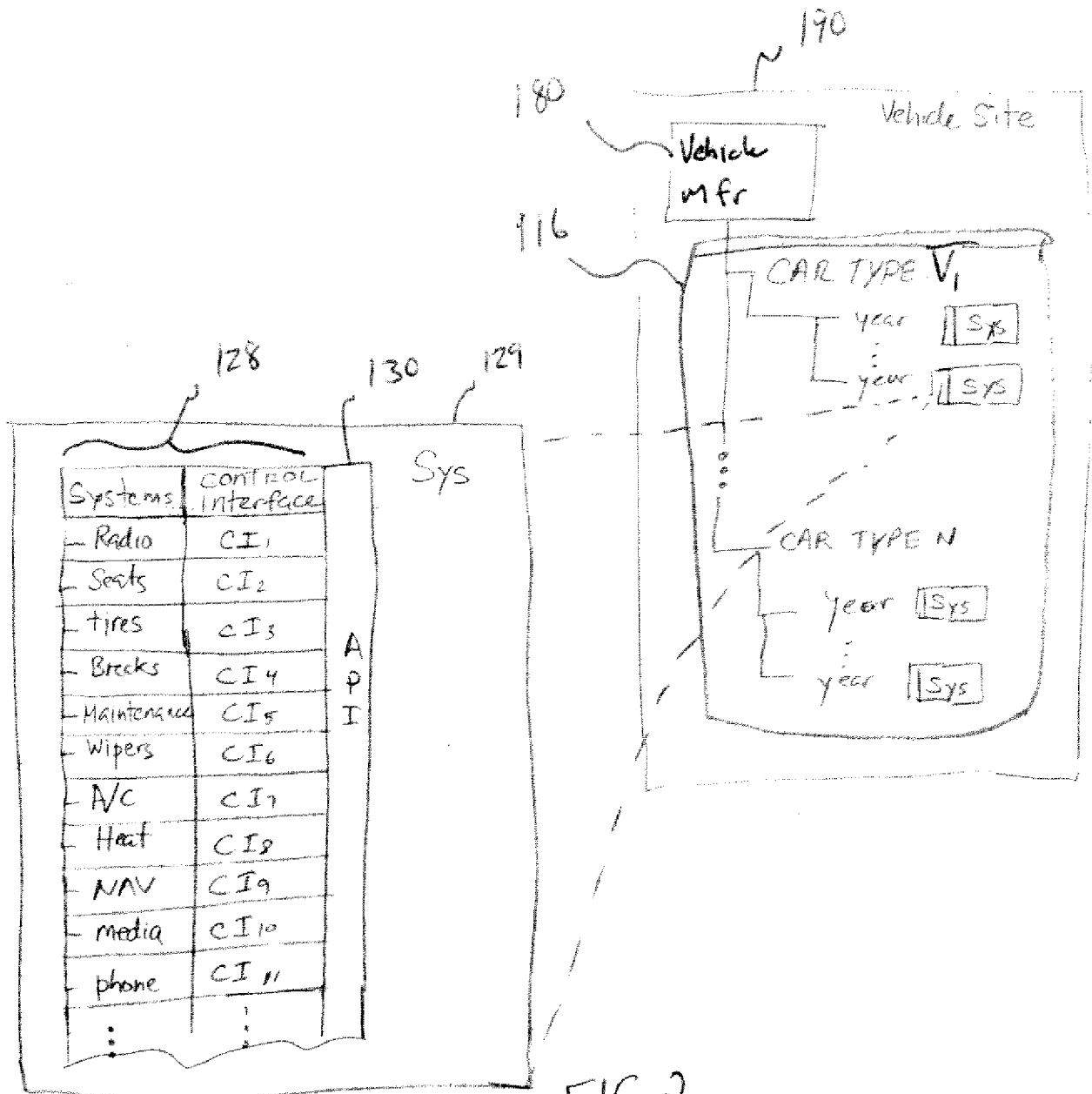


FIG. 2

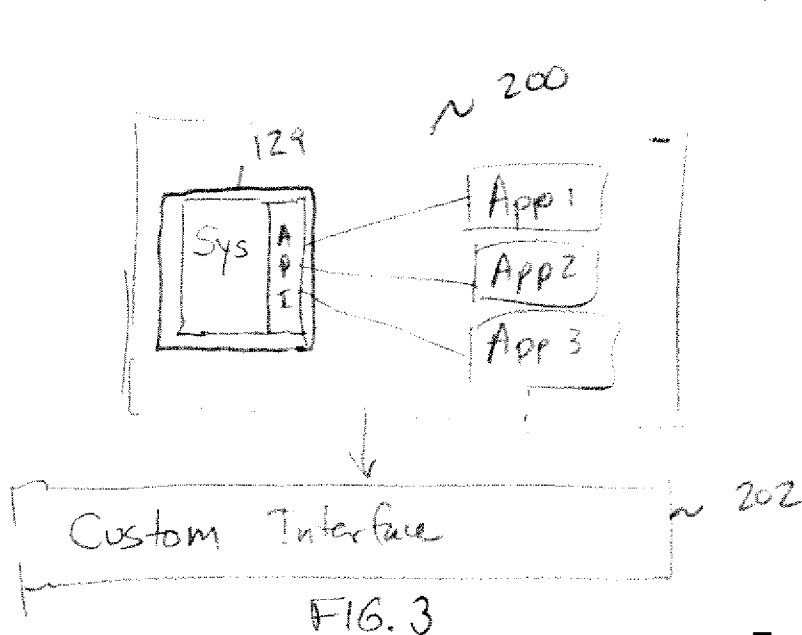


FIG. 3

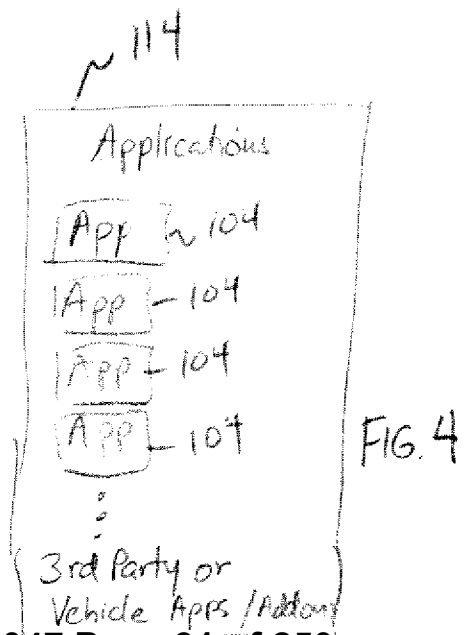
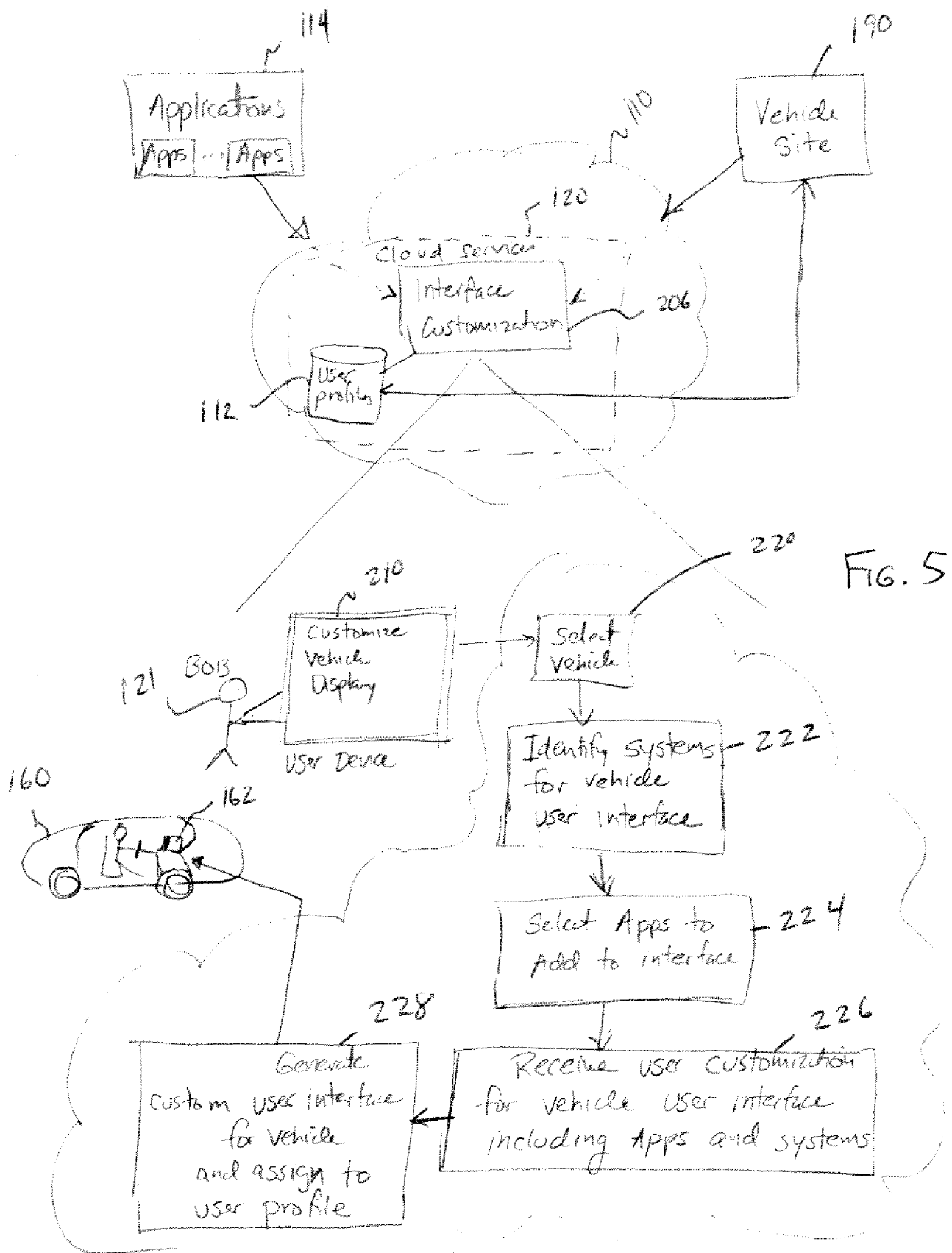
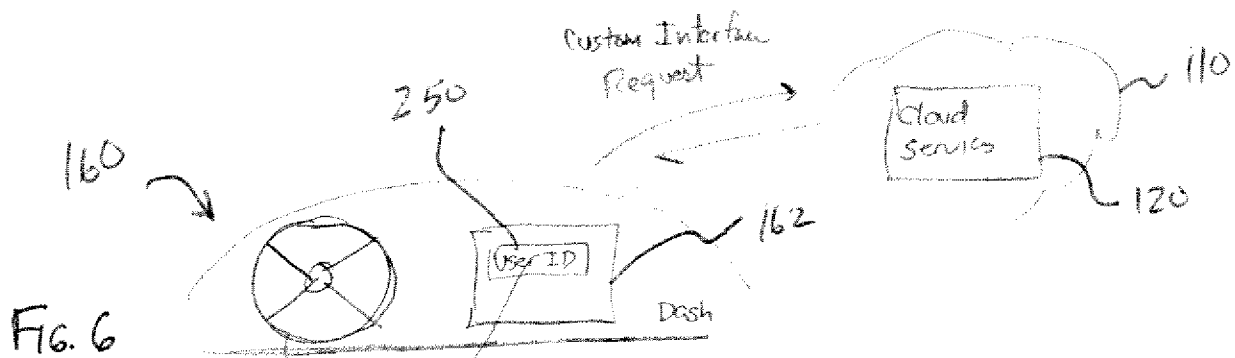
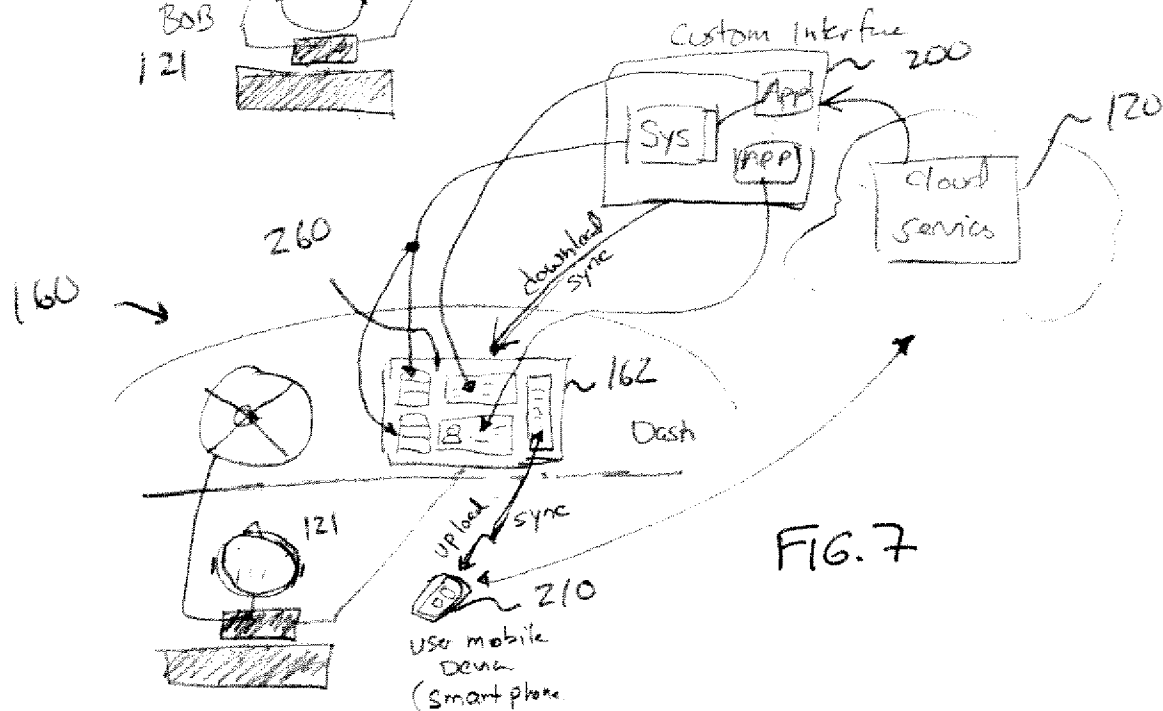
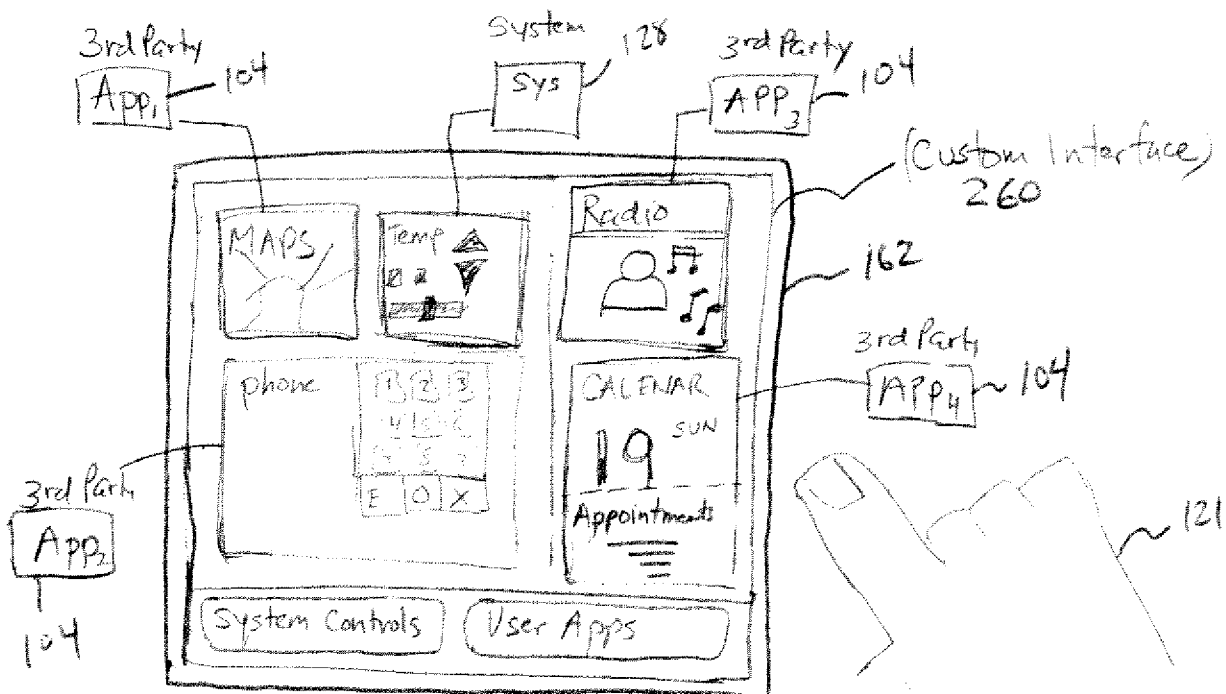


FIG. 4





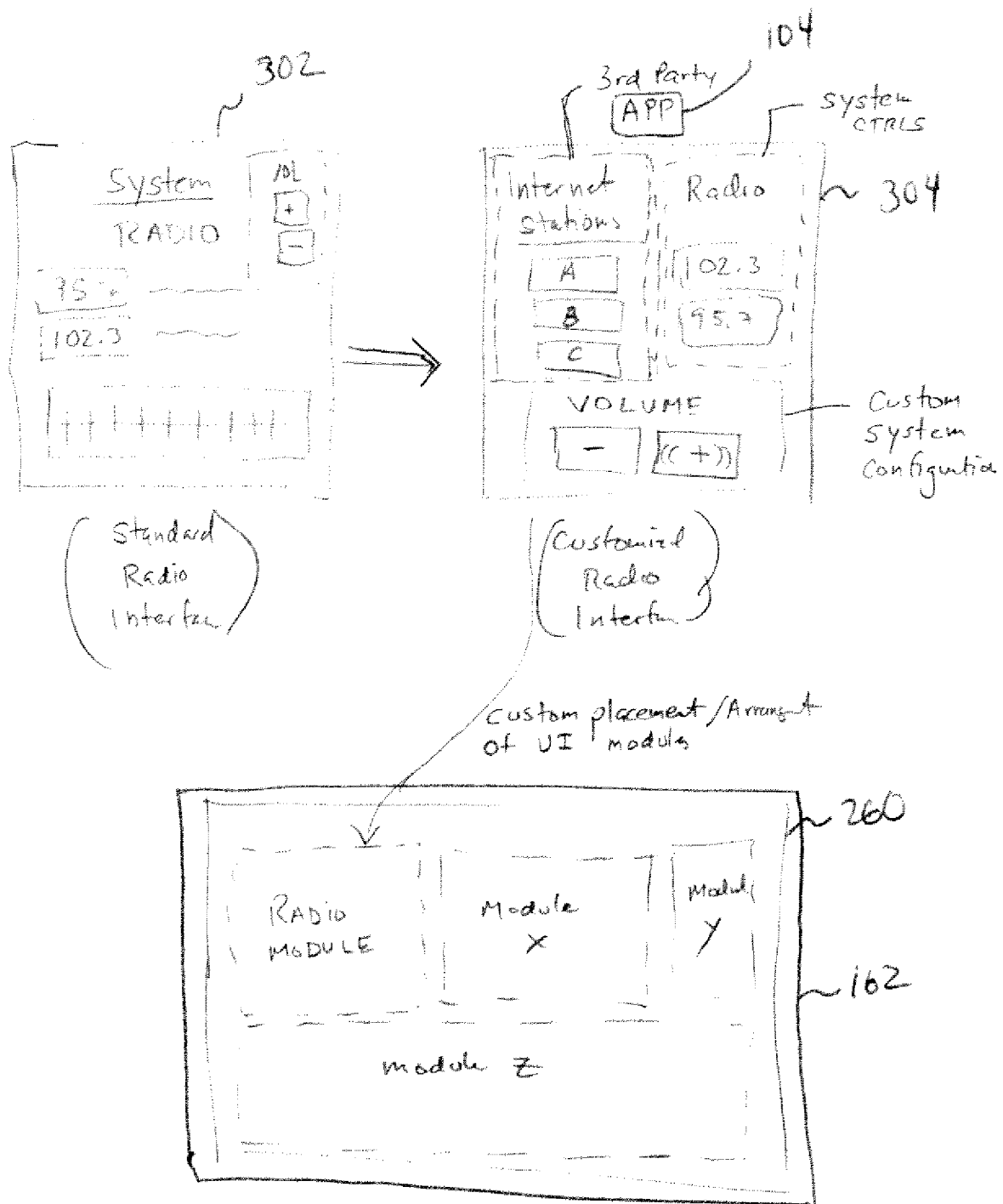
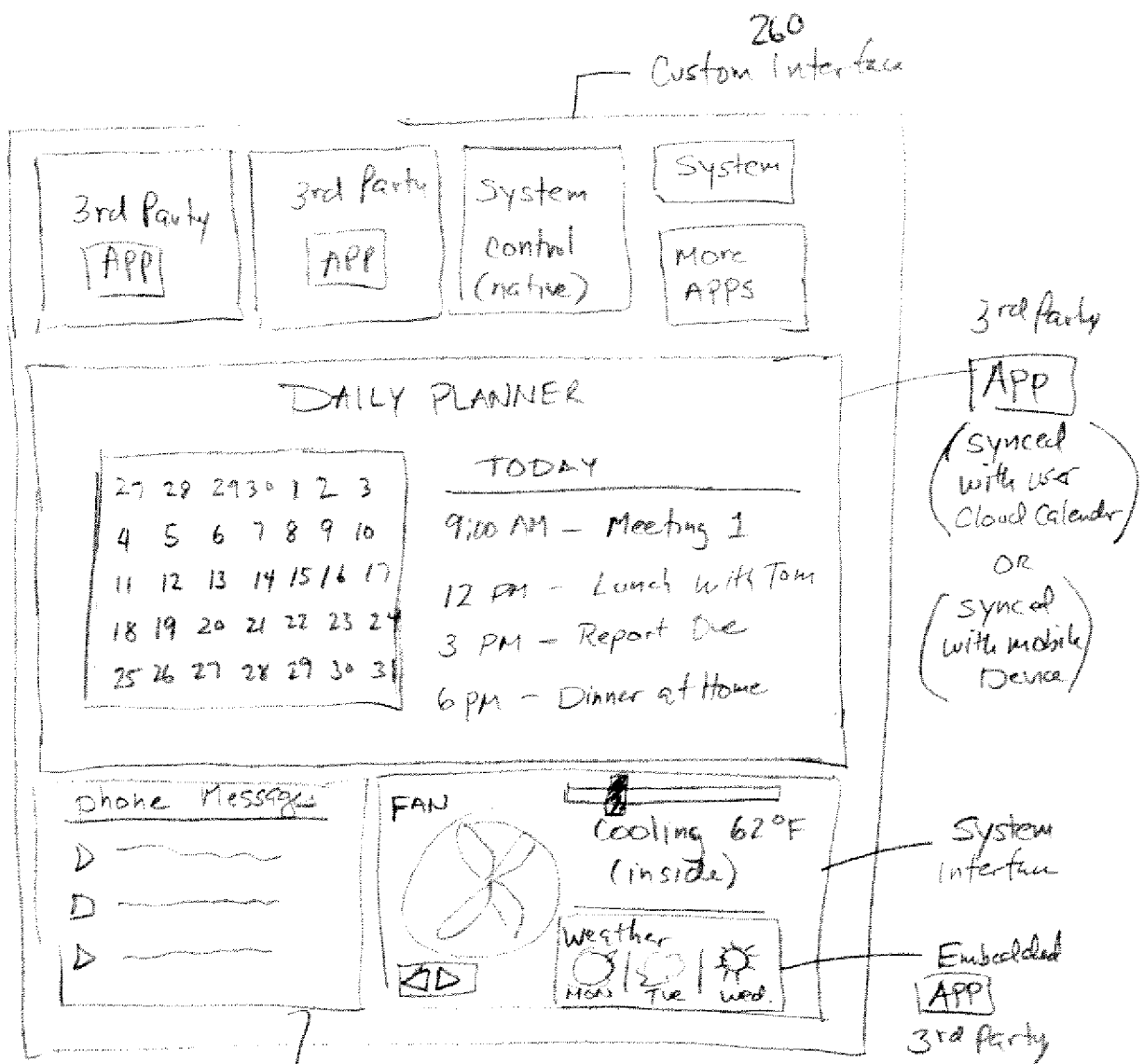
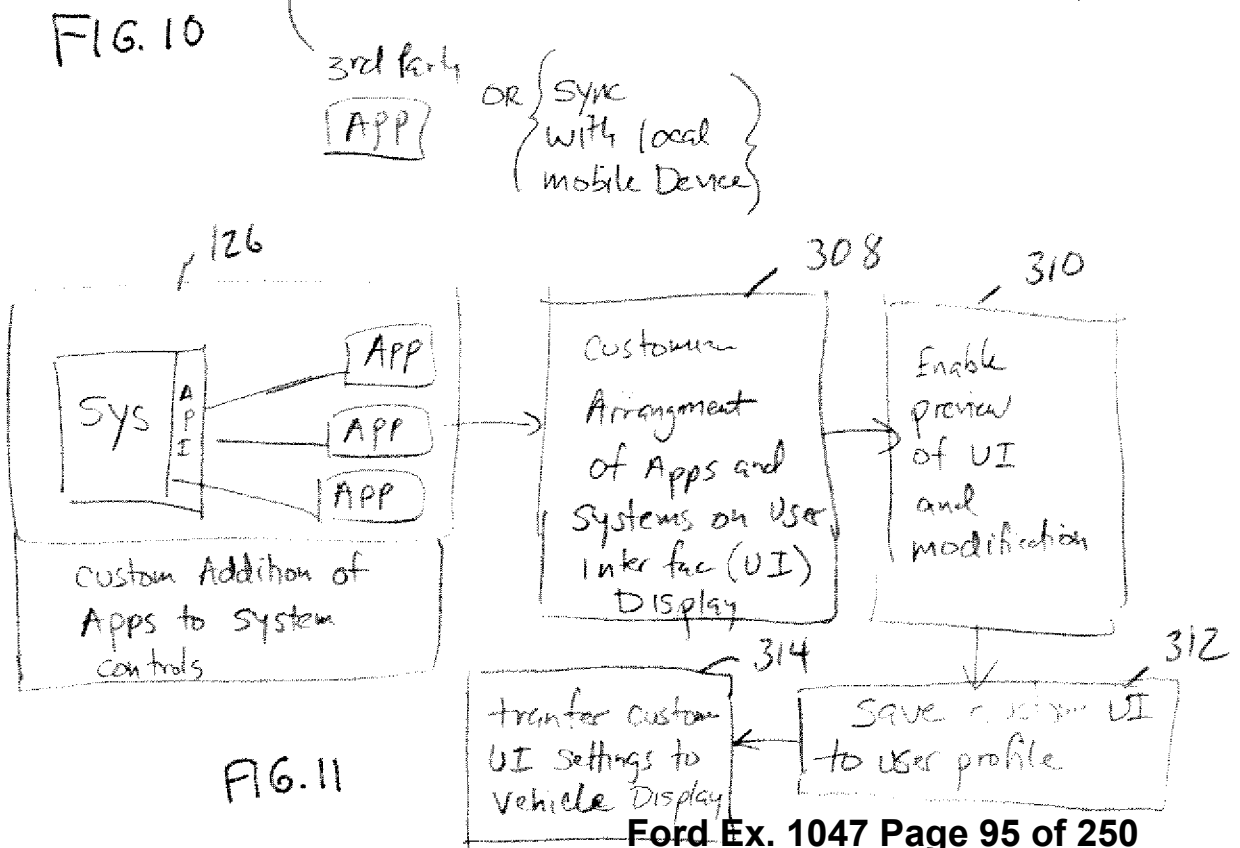


FIG. 9



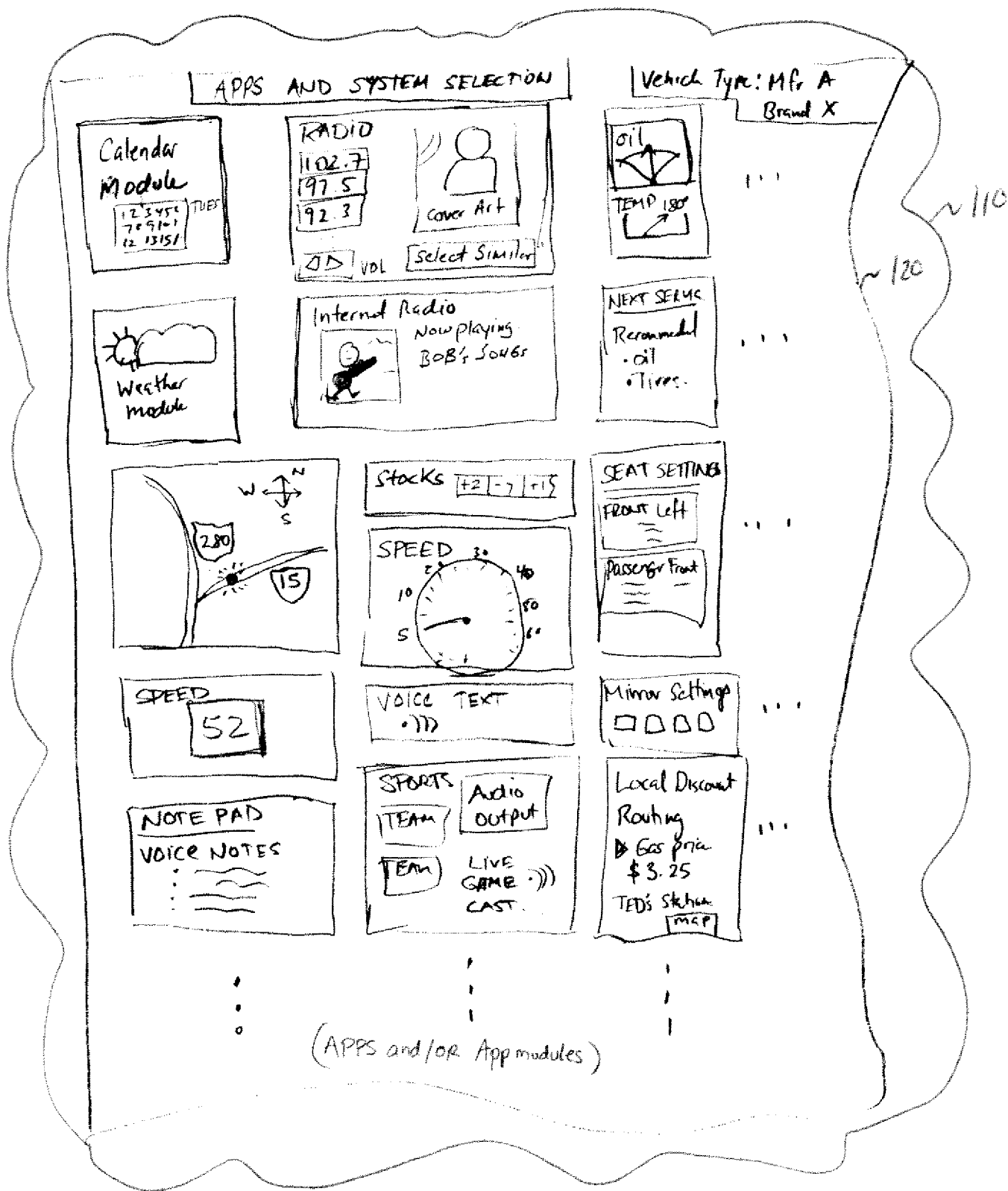


FIG. 12

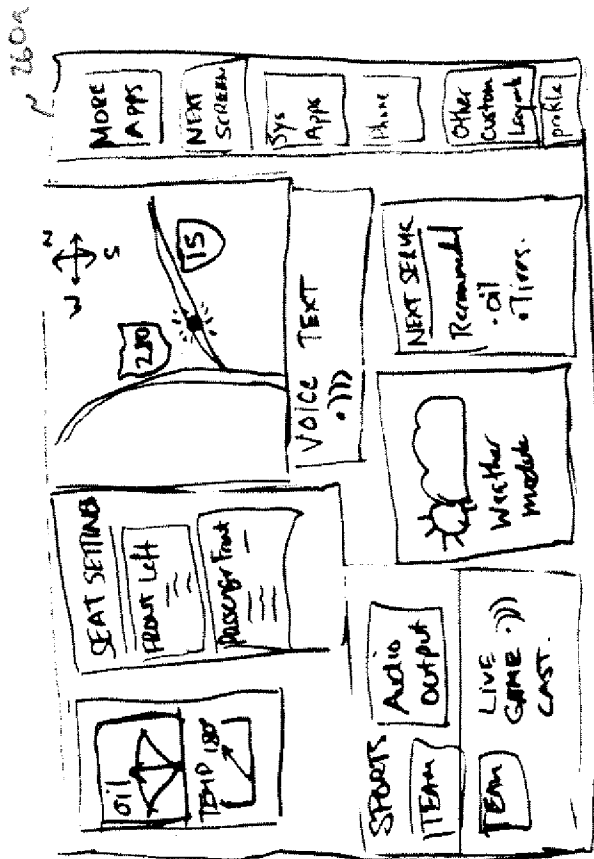


FIG. 13A

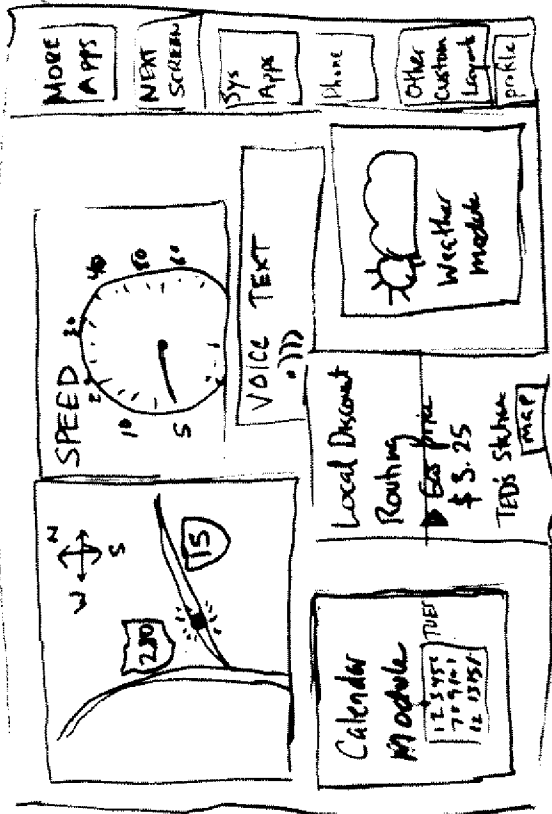


FIG. 13B

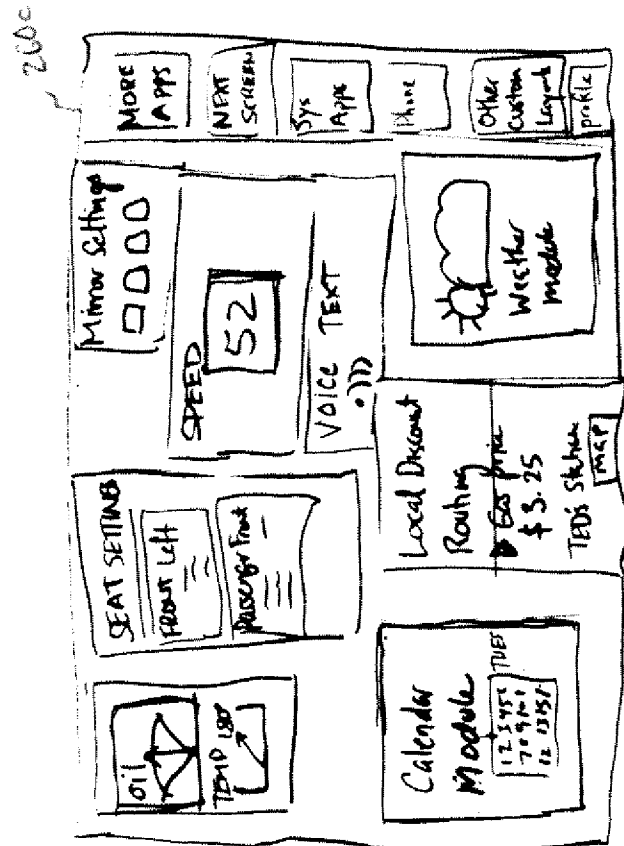


FIG. 13C

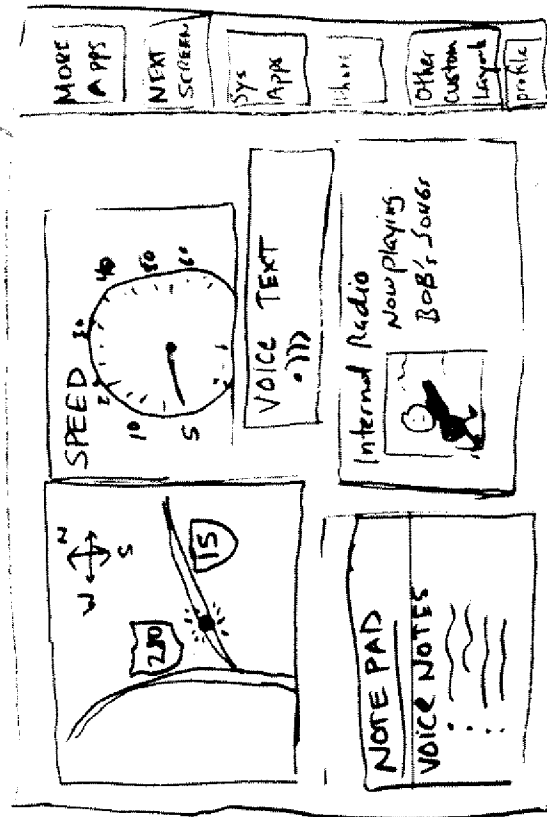


FIG. 13D

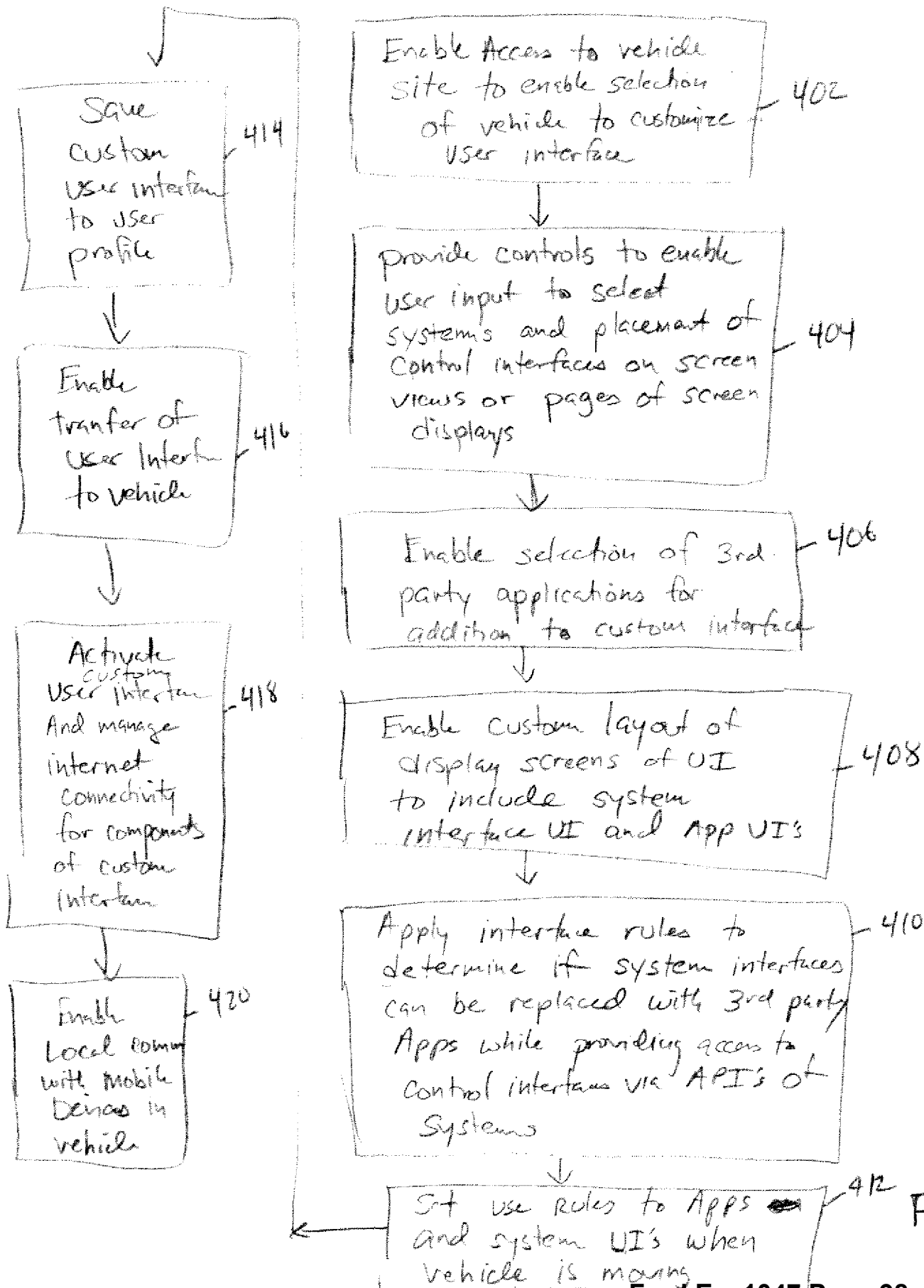


FIG. 14.

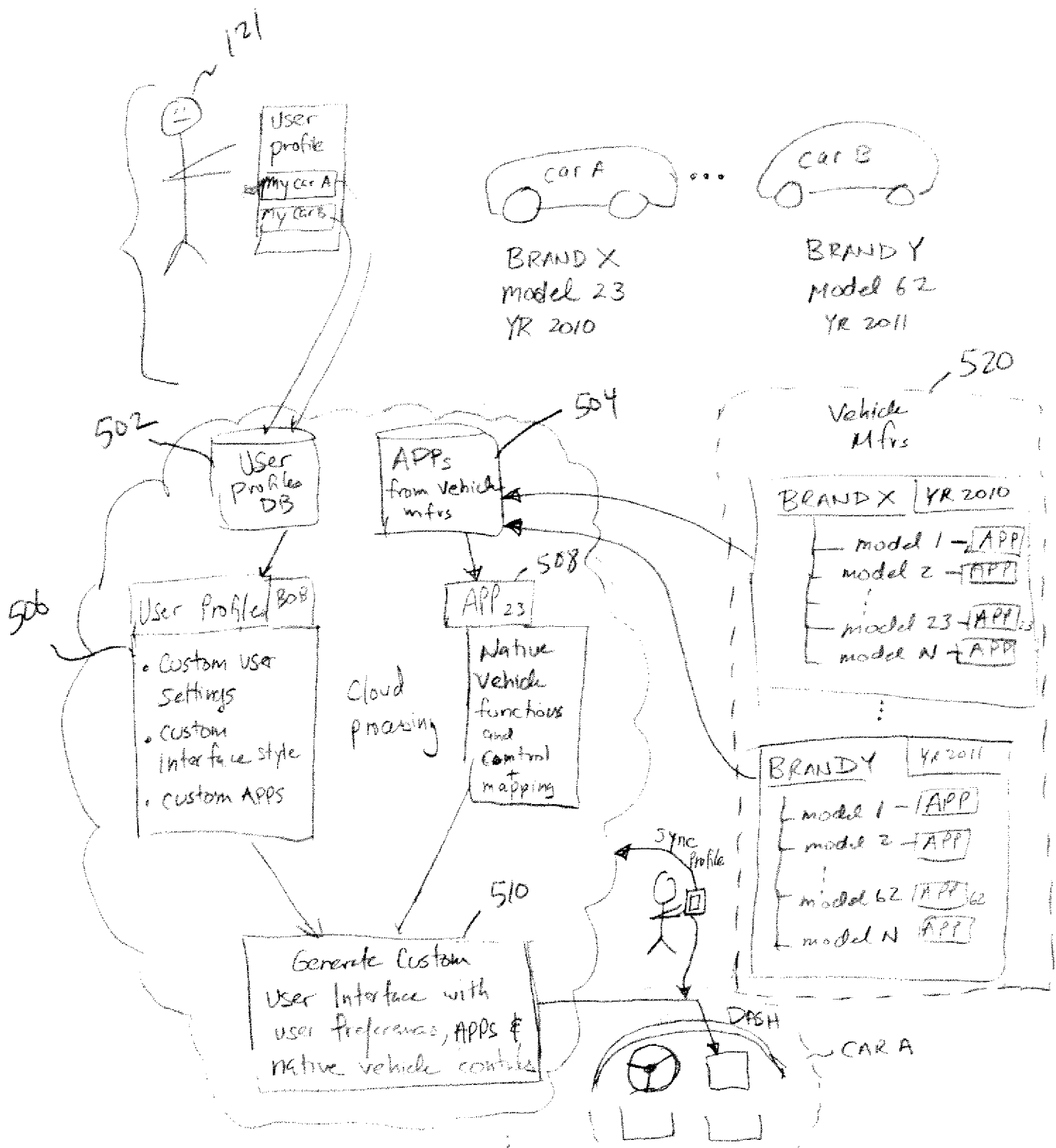


FIG. 15

$$4 + 5 + 7 (+10) + 10$$

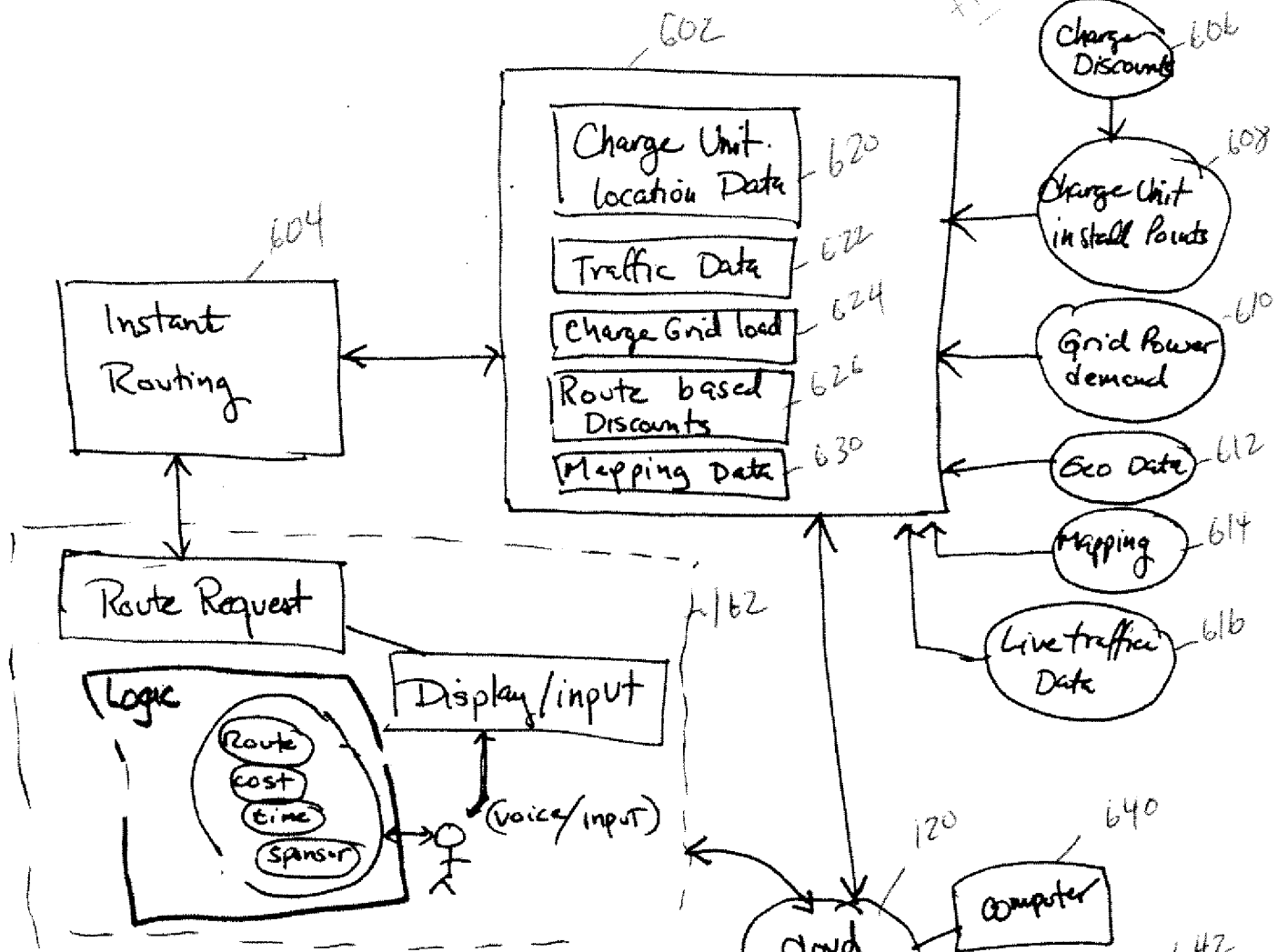


FIG. 16

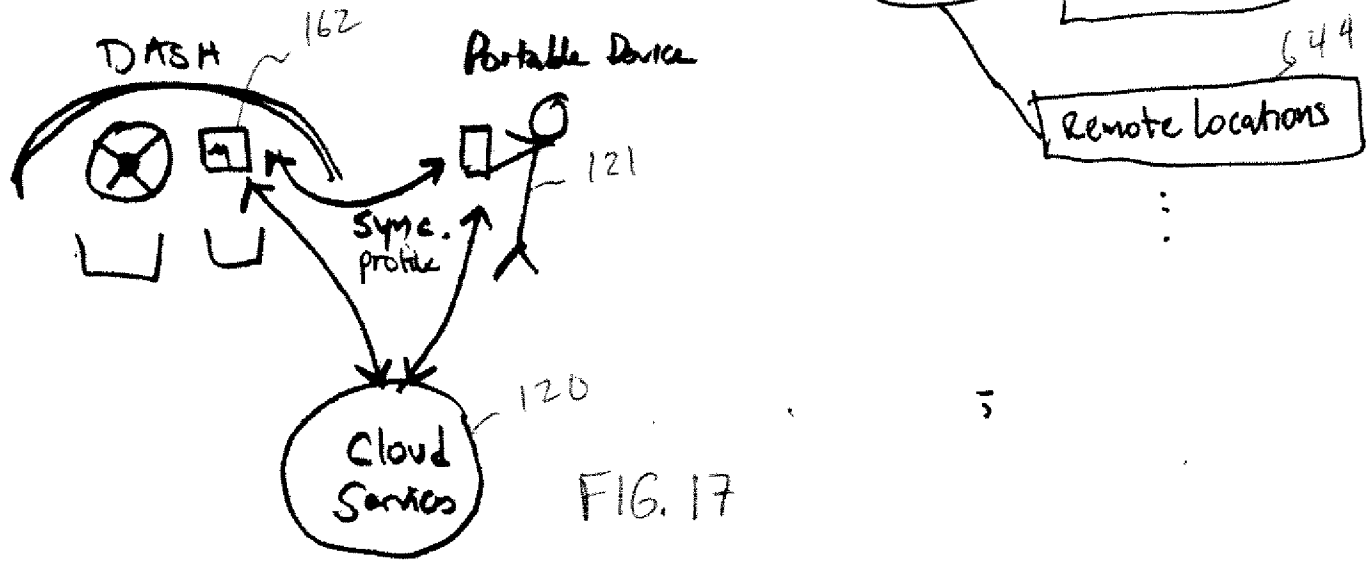
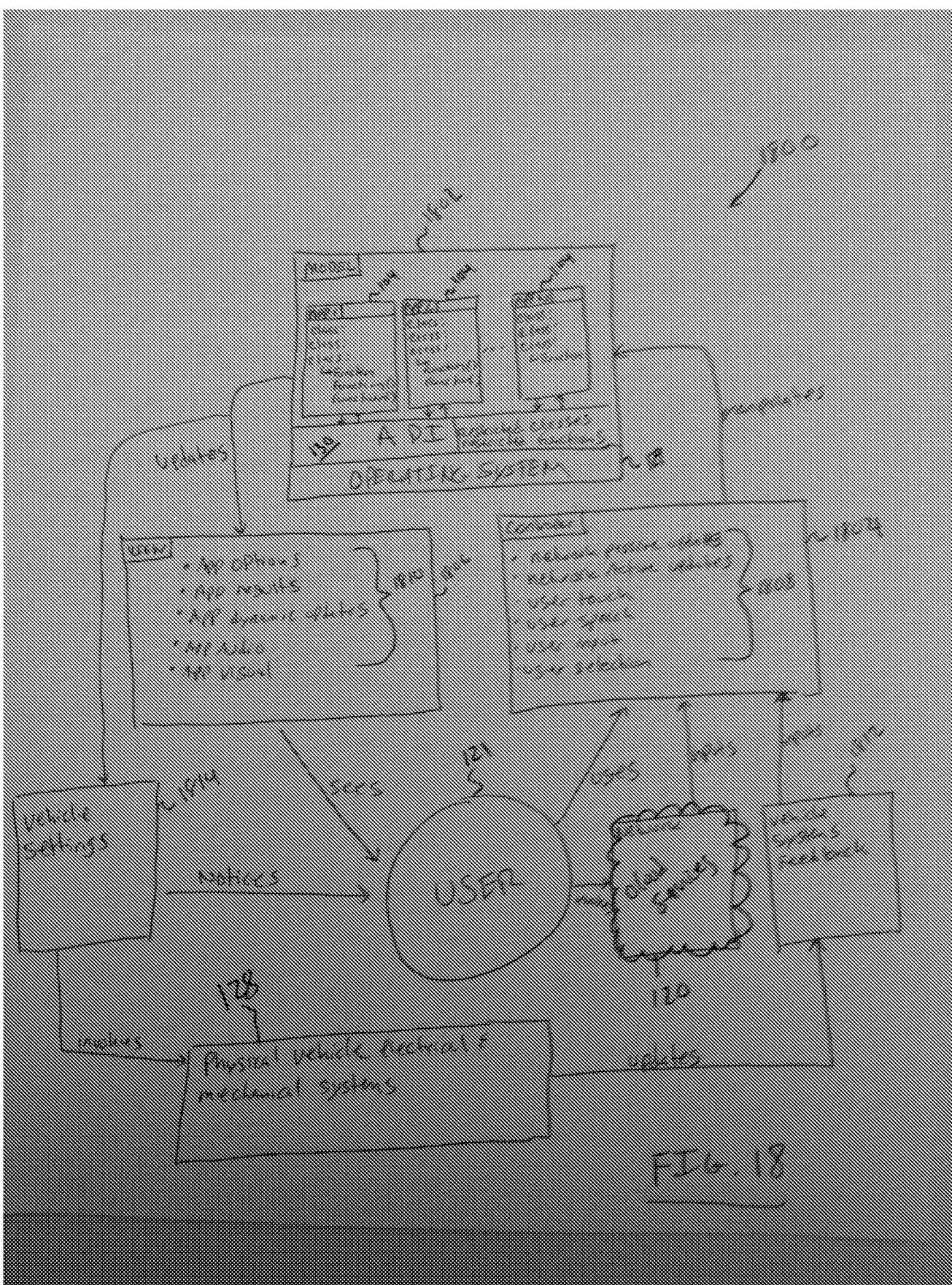
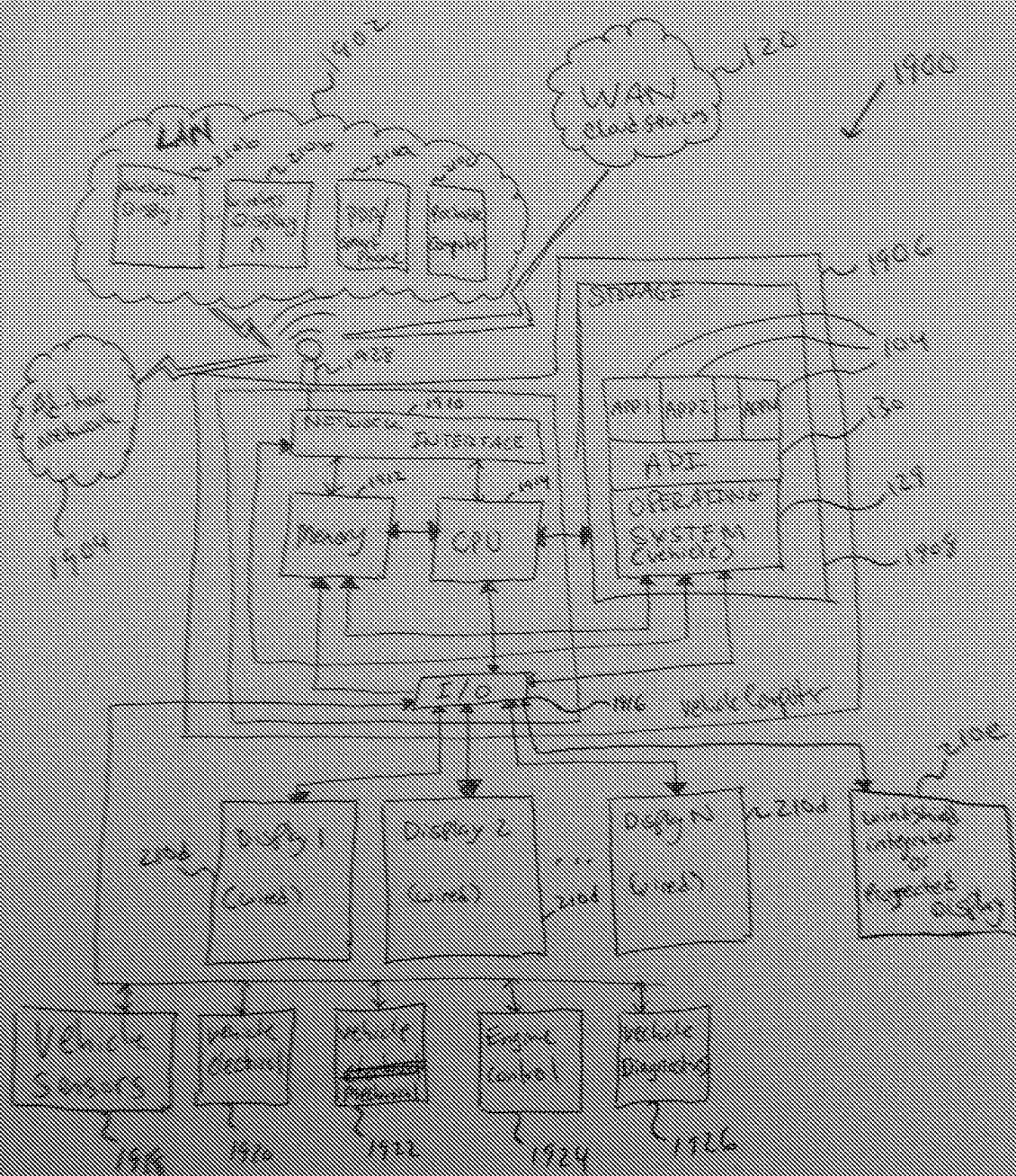


FIG. 17





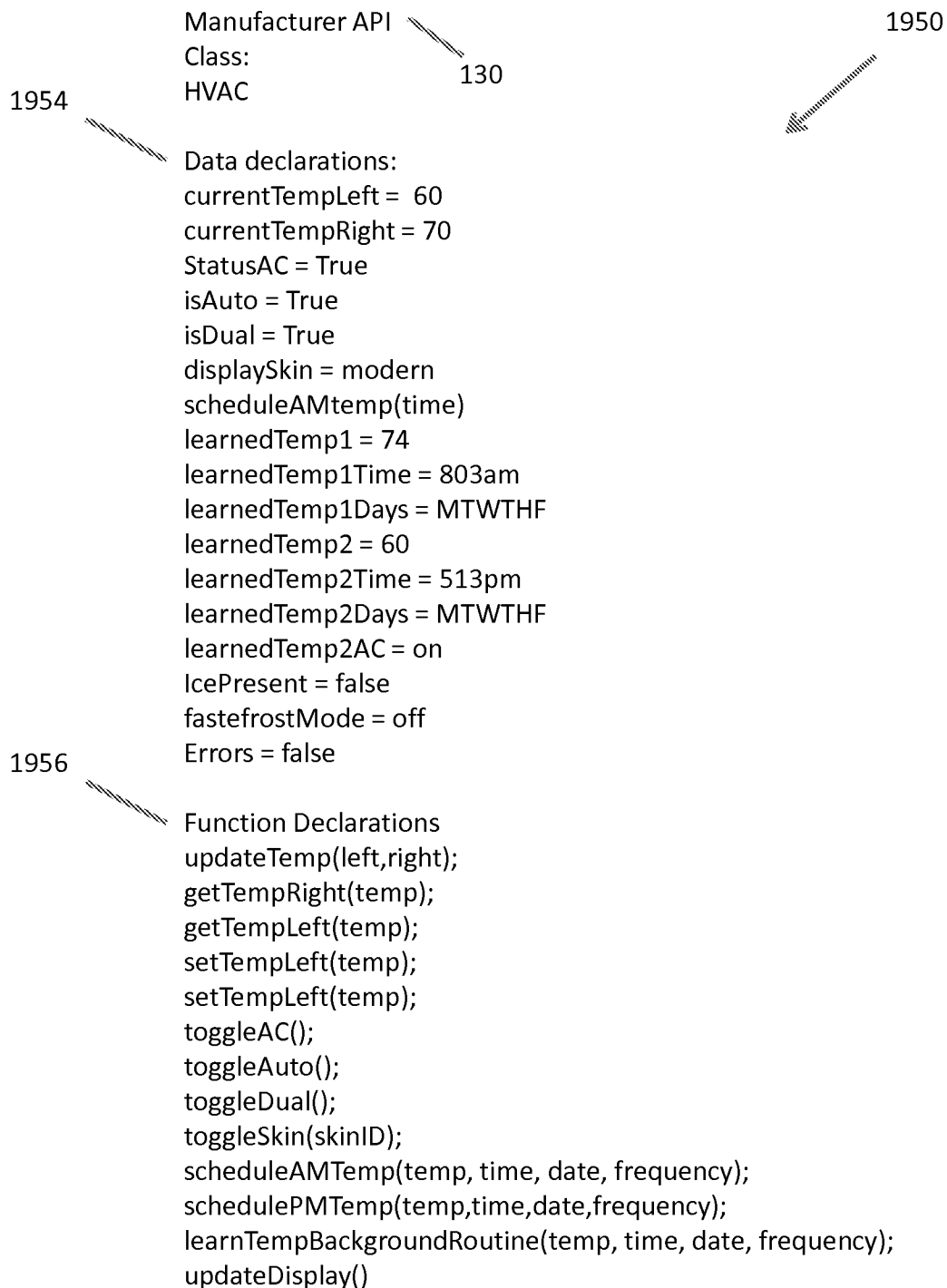


FIG. 19B

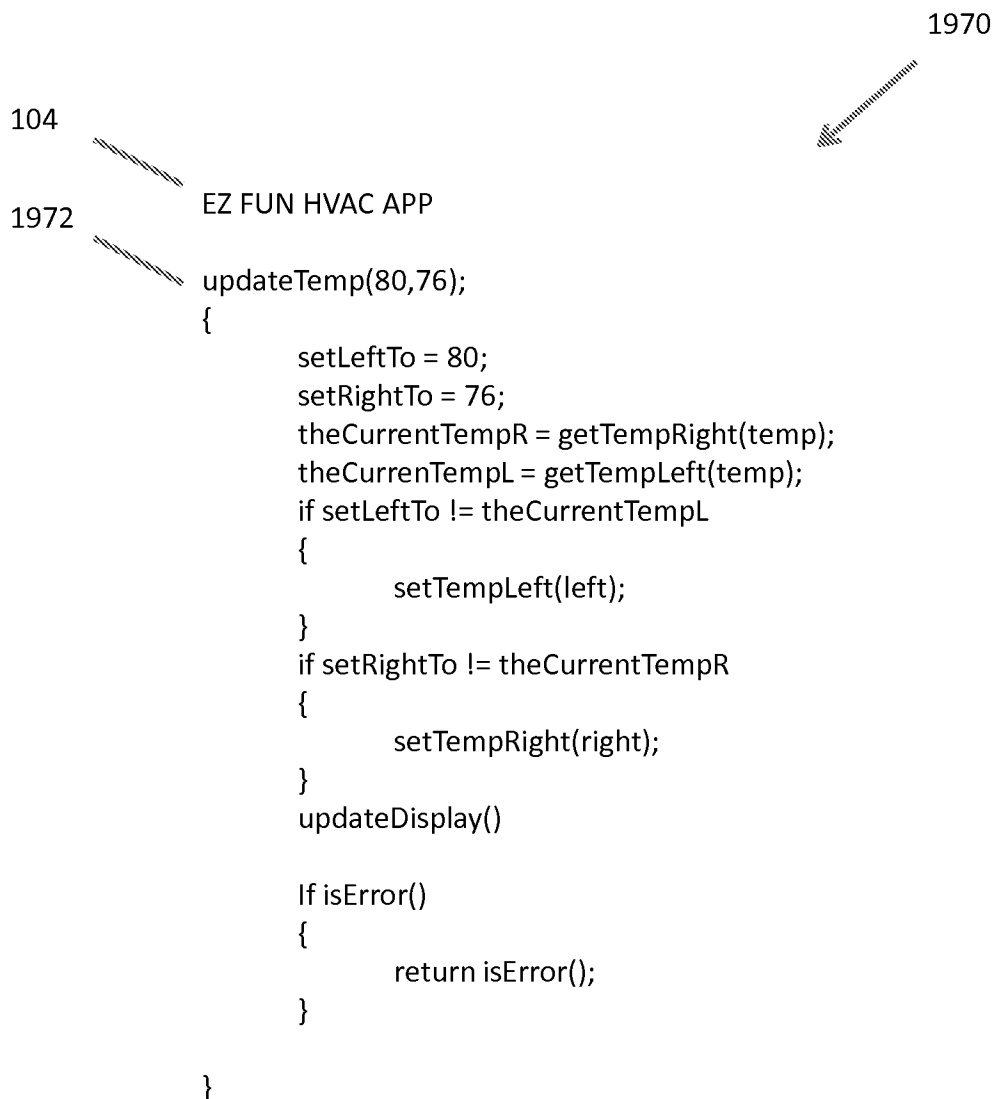


FIG. 19C

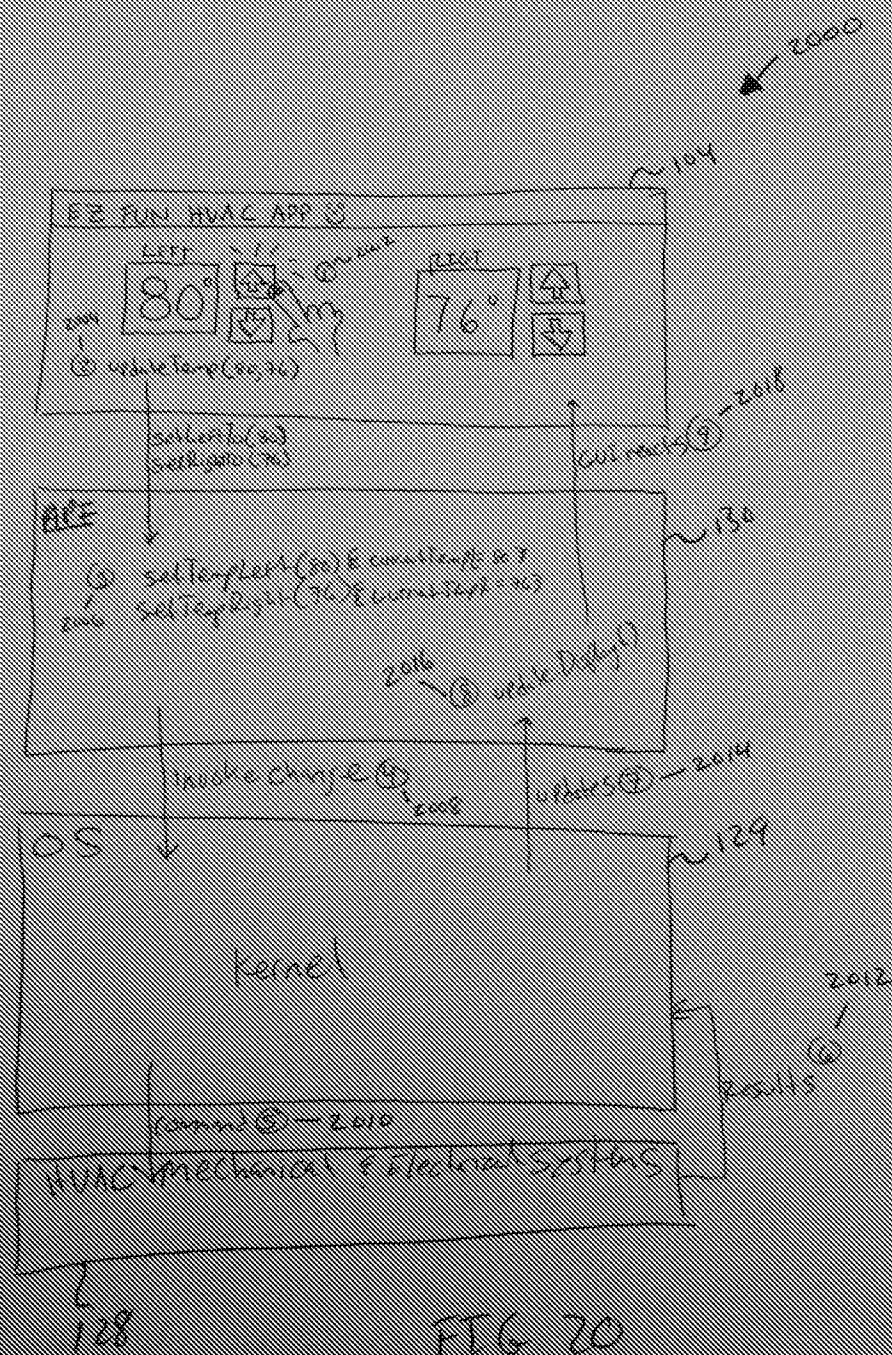
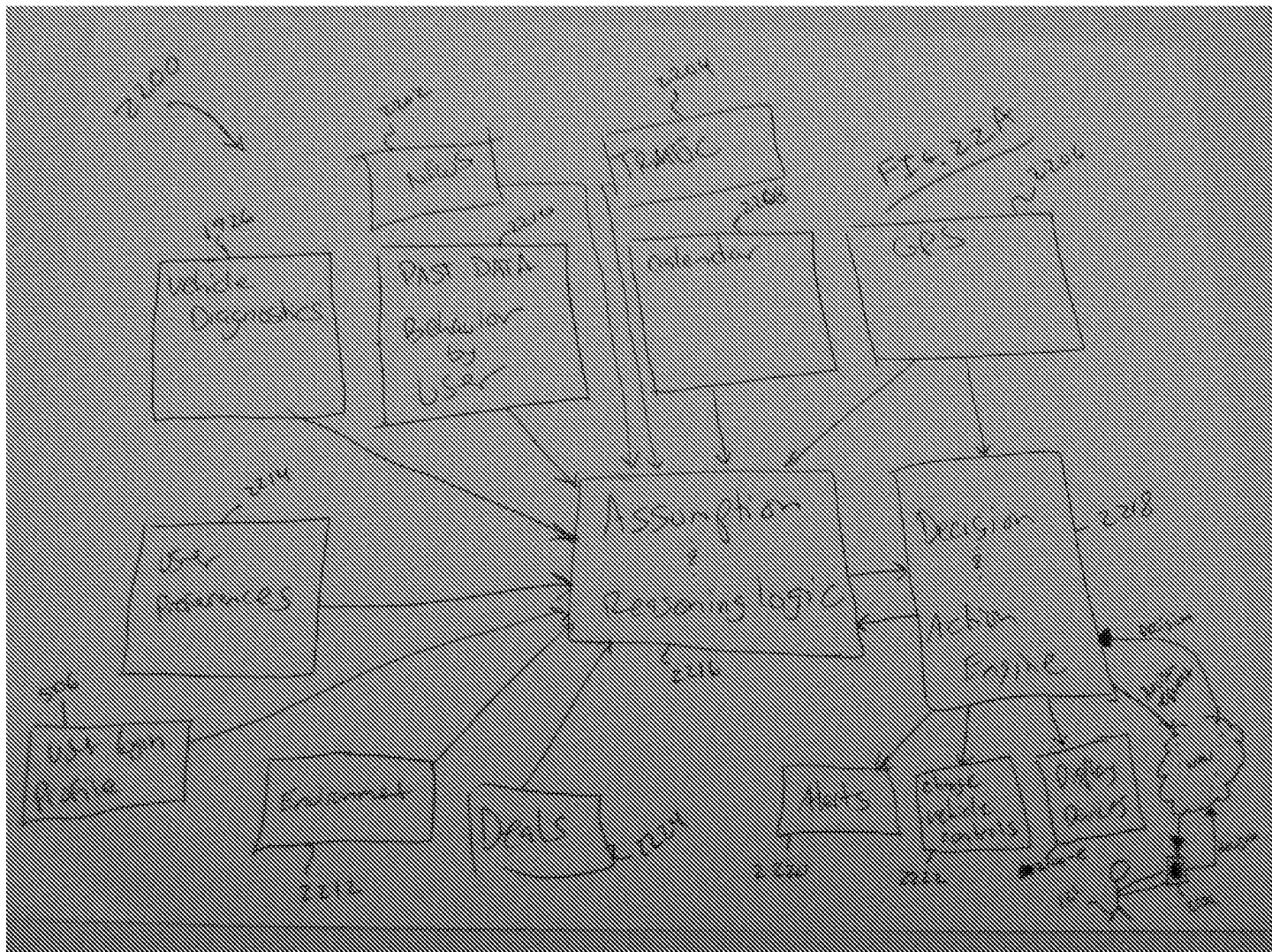


FIG 20



Learned Behavior Vehicle Application

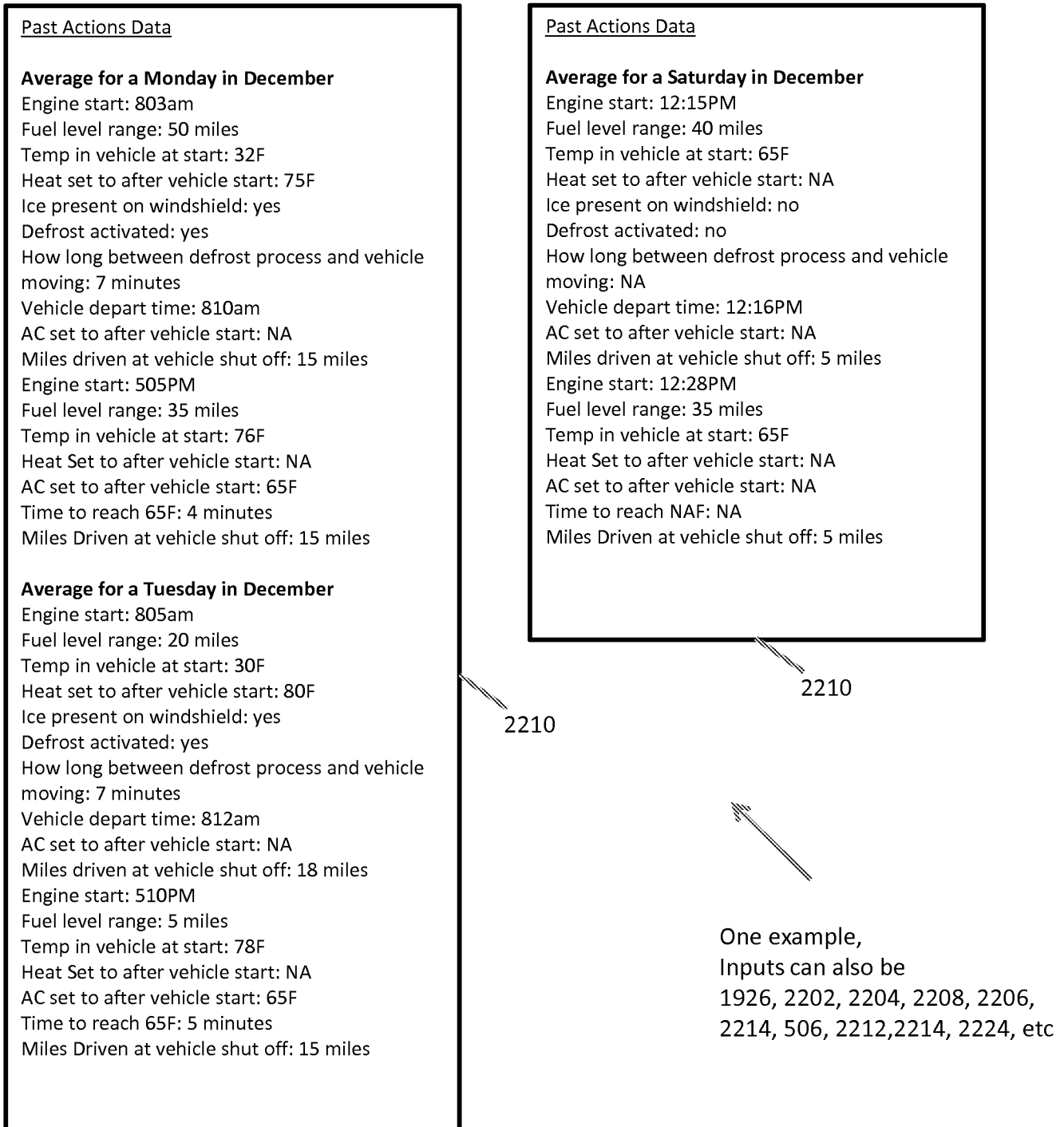


FIG. 22B

Learned Behavior Vehicle Application

2216

Learned Behavior Logic Assumptions and Deductive Reasoning

Check the user's calendar and adjust assumptions based on when the first meeting is, the meeting's location, how long it will take to get the vehicle's temperature and defrosting if applicable completed and if the user needs to re-fuel before arriving at work. Decision

User most likely will start the engine between 803am and 805am

If the temperature is in the 30s inside the vehicle, the user will most likely heat the vehicle to the mid 70s to 80 degrees. Also the user is not likely to use the AC.

If there is ice present on the windshield, the user will most likely activate defrosting measures for 7 minutes before departure.

User usually drives between 15 and 18 miles

The user usually starts the vehicle in the afternoon between 5:05 and 5:10PM

If the temperature is in the mid 70s, the user usually activates the AC to achieve a temperature of 65 degrees

The user is normally comfortable on Saturdays when the temperature in the vehicle is 65 degrees. No advance cooling or heating required. The usually makes frequent stops on Saturday and may benefit from route prioritization apps and Gas/Time saving routes, fuel stations, sponsored paths etc.

FIG. 22C

Learned Behavior Vehicle Application

2218

Potential Actions using Logic & Past Data

Vehicle Learning App Decisions:

Tuesday PM:

The user will most likely need to drive ~16.5 miles on Wednesday morning but only has a range of 5 miles. Email and or text the user that they will need extra time to get to work in the morning due to re-fueling and that the vehicle will be auto starting 12 minutes earlier than usual. Confirm decision is ok with the user.

Wednesday AM:

Vehicle is usually started at ~804am and defrosted for 7 minutes when ice is present and usually departs at 811am, but the user needs 12 minutes to refuel. Start vehicle at 752am and defrost until 759am while heating to 77F because when the temperature is 34F like today inside the vehicle, the user likes the temperature to be about 77F. Set the user's ratio station to 102.5, the most commonly listened to station at this time. Display stock information for the most commonly queries stocks at this time. Check most common commute route in and make sure there aren't delays, else suggest a new route in advance. The user typically goes to coffee on the way to work. Launch the nearest starbucks coffee location APP. The user usually "one button touch" orders and pays for a medium coffee. Directly from the app.

Friday PM:

Tell the user Saturdays are normally full of errands. Suggest the user send tomorrow's itinerary to the vehicle's app on the network or directly on the vehicle to report if and when the user should get started due to traffic, road construction, suggest fuel locations and ask if 65F degrees is still ok or adjust to a different temperature before the user enters the car around 12pm. Ask the user what time they will most likely depart if its not at 12pm like usual. Download specials and coupons for locations the user typically frequents on Saturdays and display to the user on the vehicle's interface on the user's mobile device.

Saturday PM:

The user said they would like to get started at 10am today but the vehicle interior is more than 20% lower than the user usually likes it. Turn the vehicle on at 955am and heat to 65F since 65F seems to be the user's most commonly used temperature. Display the specials for the nearest dry cleaner since the user typically gets dry cleaning done on Saturdays based on GPS data. Show the user lunch specials nearby and deals to claim since the user usually stops for lunch while out on errands on Saturday.

FIG. 22D

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	VOLTP027
		Application Number	
Title of Invention	Methods and Systems for Defining Custom Vehicle User Interface Configurations and Cloud Services for Managing Applications for the User Interface and Learned Setting Functions		
<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.</p> <p>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.)
--

Inventor Information:

Inventor 1					Remove	
Legal Name						
Prefix	Given Name	Middle Name	Family Name	Suffix		
	Angel	A.	Penilla			
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service						
City	Sacramento	State/Province	CA	Country of Residence ⁱ	US	
Mailing Address of Inventor:						
Address 1		710 Lakeway Drive Suite 200				
Address 2						
City	Sunnyvale	State/Province	CA			
Postal Code	94085	Country ⁱ	US			
Inventor 2					Remove	
Legal Name						
Prefix	Given Name	Middle Name	Family Name	Suffix		
	Albert	S.	Penilla			
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service						
City	Sunnyvale	State/Province	CA	Country of Residence ⁱ	US	
Mailing Address of Inventor:						
Address 1		710 Lakeway Drive Suite 200				
Address 2						
City	Sunnyvale	State/Province	CA			
Postal Code	94085	Country ⁱ	US			
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.						
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Correspondence Information:

<p>Enter either Customer Number or complete the Correspondence Information section below.</p> <p>For further information see 37 CFR 1.33(a).</p>
--

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	VOLTP027
		Application Number	
Title of Invention	Methods and Systems for Defining Custom Vehicle User Interface Configurations and Cloud Services for Managing Applications for the User Interface and Learned Setting Functions		

☐ An Address is being provided for the correspondence information of this application.

Customer Number	25920		
Email Address	al@mpiplaw.com	<input type="button" value="Add Email"/>	<input type="button" value="Remove Email"/>

Application Information:

Title of the Invention	Methods and Systems for Defining Custom Vehicle User Interface Configurations and Cloud Services for Managing Applications for the User Interface and Learned Setting Functions		
Attorney Docket Number	VOLTP027	Small Entity Status Claimed ☒	
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	21	Suggested Figure for Publication (if any)	

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☒ **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). Either enter 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:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)
Customer Number	25920		

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.

Prior Application Status	Pending	<input type="button" value="Remove"/>	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	non provisional of	61745729	2012-12-24

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	VOLTP027
		Application Number	
Title of Invention	Methods and Systems for Defining Custom Vehicle User Interface Configurations and Cloud Services for Managing Applications for the User Interface and Learned Setting Functions		
Prior Application Status	Pending	Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation in part of	13452882	2012-04-22
Prior Application Status		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
13452882	non provisional of	61478436	2011-04-22
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	Filing Date (YYYY-MM-DD)	Priority Claimed
			☒ Yes ☐ No
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			Add

Authorization to Permit Access:

☐ Authorization to Permit Access to the Instant Application by the Participating Offices
<p>If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.</p> <p>In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.</p> <p>In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.</p>

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	VOLTP027
		Application Number	
Title of Invention	Methods and Systems for Defining Custom Vehicle User Interface Configurations and Cloud Services for Managing Applications for the User Interface and Learned Setting Functions		

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.				
Applicant 1				Remove
<p>If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.</p>				
Clear				
☐ Assignee	☐ Legal Representative under 35 U.S.C. 117		☐ Joint Inventor	
☐ Person to whom the inventor is obligated to assign.		☐ Person who shows sufficient proprietary interest		
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:				
Name of the Deceased or Legally Incapacitated Inventor : <input type="text"/>				
If the Applicant is an Organization check here. ☐				
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Mailing Address Information:				
Address 1				
Address 2				
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Phone Number		Fax Number		
Email Address				
Additional Applicant Data may be generated within this form by selecting the Add button.				Add

Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	VOLTP027
		Application Number	
Title of Invention	Methods and Systems for Defining Custom Vehicle User Interface Configurations and Cloud Services for Managing Applications for the User Interface and Learned Setting Functions		

Assignee 1				
Complete this section only if non-applicant assignee information is desired to be included on the patent application publication in accordance with 37 CFR 1.215(b). Do not include in this section an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest), as the patent application publication will include the name of the applicant(s).				
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If the Assignee is an Organization check here. ☐				
Prefix	Given Name	Middle Name	Family Name	Suffix
Mailing Address Information:				
Address 1				
Address 2				
City		State/Province		
Country i		Postal Code		
Phone Number		Fax Number		
Email Address				
Additional Assignee Data may be generated within this form by selecting the Add button. Add				

Signature:[Remove](#)

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications					
Signature	/Albert Penilla/			Date (YYYY-MM-DD)	2013-03-04
First Name	Albert	Last Name	Penilla	Registration Number	39487
Additional Signature may be generated within this form by selecting the Add button. Add					

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.

SCORE Placeholder Sheet for IFW Content

Application Number: 13784823

Document Date: 03/05/2013

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Electronic Acknowledgement Receipt

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01 FC:2202 31.00 DA

EFS ID:	15114778
Application Number:	13784823
International Application Number:	
Confirmation Number:	8299
Title of Invention:	Methods and Systems for Defining Custom Vehicle User Interface Configurations and Cloud Services for Managing Applications for the User Interface and Learned Setting Functions
First Named Inventor/Applicant Name:	Angel A Penilla
Customer Number:	25920
Filer:	Albert S. Penilla
Filer Authorized By:	
Attorney Docket Number:	VOLTP027
Receipt Date:	05-MAR-2013
Filing Date:	
Time Stamp:	00:05:48
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$719
RAM confirmation Number	9468
Deposit Account	500805
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)
 Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 13/784,823				
APPLICATION AS FILED - PART I										
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY				
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)			
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	70		N/A				
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	300		N/A				
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	360		N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	27	minus 20 = * 7	x 40 =	280	OR					
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2	minus 3 = *	x 210 =	0.00						
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00						
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00						
			TOTAL	1010		TOTAL				
* If the difference in column 1 is less than zero, enter "0" in column 2.										
APPLICATION AS AMENDED - PART II										
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=	OR	x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=	OR	x	=
	Application Size Fee (37 CFR 1.16(s))							OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=	OR	x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=	OR	x	=
	Application Size Fee (37 CFR 1.16(s))							OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.										



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
13/784,823	03/05/2013	3661	750	VOLTP027	27	2

CONFIRMATION NO. 8299

25920
MARTINE PENILLA GROUP, LLP
710 LAKEWAY DRIVE
SUITE 200
SUNNYVALE, CA 94085

FILING RECEIPT



OC000000060224917

Date Mailed: 04/08/2013

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. 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**

Inventor(s)

Angel A. Penilla, Sacramento, CA;
Albert S. Penilla, Sunnyvale, CA;

Applicant(s)

Angel A. Penilla, Sacramento, CA;
Albert S. Penilla, Sunnyvale, CA;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This appln claims benefit of 61/745,729 12/24/2012
and is a CIP of 13/452,882 04/22/2012
which claims benefit of 61/478,436 04/22/2011

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

If Required, Foreign Filing License Granted: 04/01/2013

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/784,823**

Projected Publication Date: Request for Non-Publication Acknowledged

Non-Publication Request: Yes

Early Publication Request: No

**** SMALL ENTITY ****

Title

Methods and Systems for Defining Custom Vehicle User Interface Configurations and Cloud Services for Managing Applications for the User Interface and Learned Setting Functions

Preliminary Class

701

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/784,823	03/05/2013	Angel A. Penilla	VOLTP027

CONFIRMATION NO. 8299

FORMALITIES LETTER



OC000000060224918

25920
MARTINE PENILLA GROUP, LLP
710 LAKEWAY DRIVE
SUITE 200
SUNNYVALE, CA 94085

Date Mailed: 04/08/2013

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Filing Date Granted

An application number and filing date have been accorded to this application. The application is informal since it does not comply with the regulations for the reason(s) indicated below. Applicant is given TWO MONTHS from the date of this Notice within which to correct the informalities indicated below. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

The required item(s) identified below must be timely submitted to avoid abandonment:

- Replacement drawings in compliance with 37 CFR 1.84 and 37 CFR 1.121(d) are required. The drawings submitted are not acceptable because:
 - The drawings have a line quality that is too light to be reproduced (weight of all lines and letters must be heavy enough to permit adequate reproduction) or text that is illegible (reference characters, sheet numbers, and view numbers must be plain and legible) see 37 CFR 1.84(l) and (p)(1)); See Figure(s) 1-17.
 - Numbers, letters, and reference characters on the drawings must measure at least 0.32 cm (1/8 inch) in height. See Figure(s) 18 -19a, 21, 22a.
 - The drawings submitted to the Office are not electronically reproducible because portions of figures 1 -17 are missing and/or blurry.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be mailed to:

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P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.

<https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html>

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at <http://www.uspto.gov/ebc>.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

/aabranys/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Angel A. Penilla

Application No: 13/784,823

Filed: March 5, 2013

For: Methods and Systems for Defining
Custom Vehicle User Interface Configurations
and Cloud Services for Managing Applications
for the User Interface and Learned Setting
Functions

Group Art Unit:

Examiner: Unknown

Atty. Docket No: VOLTP027

Date: May 30, 2013

RESPONSE TO NOTICE TO FILE CORRECTED APPLICATION PAPERS

Honorable Commissioner for Patents
Alexandria VA 22313-1450

Dear Sir:

In response to the Notice to file Corrected Application Papers, dated April 8, 2013, the Applicant is hereby submitting a full set of formal drawings. The formal drawings are filed to correct the informalities noted in the Notice.

Respectfully submitted,
MARTINE PENILLA GROUP, LLP
/Albert Penilla/

Albert S. Penilla, Esq.
Reg. No. 39,487

710 Lakeway Drive, Suite 200
Sunnyvale, CA 94085
Telephone: (408) 749-6903
Facsimile: (408) 749-6901

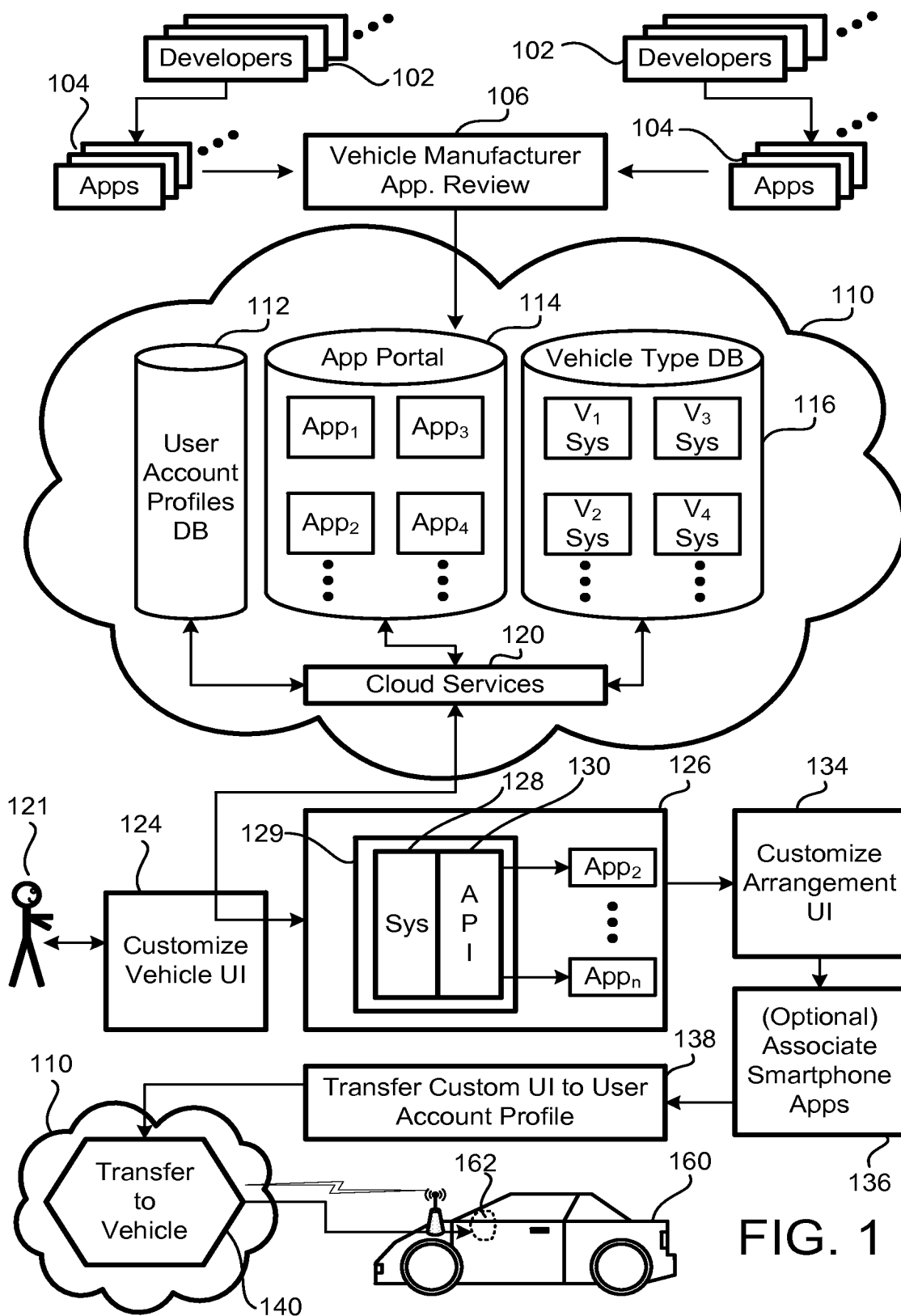


FIG. 1

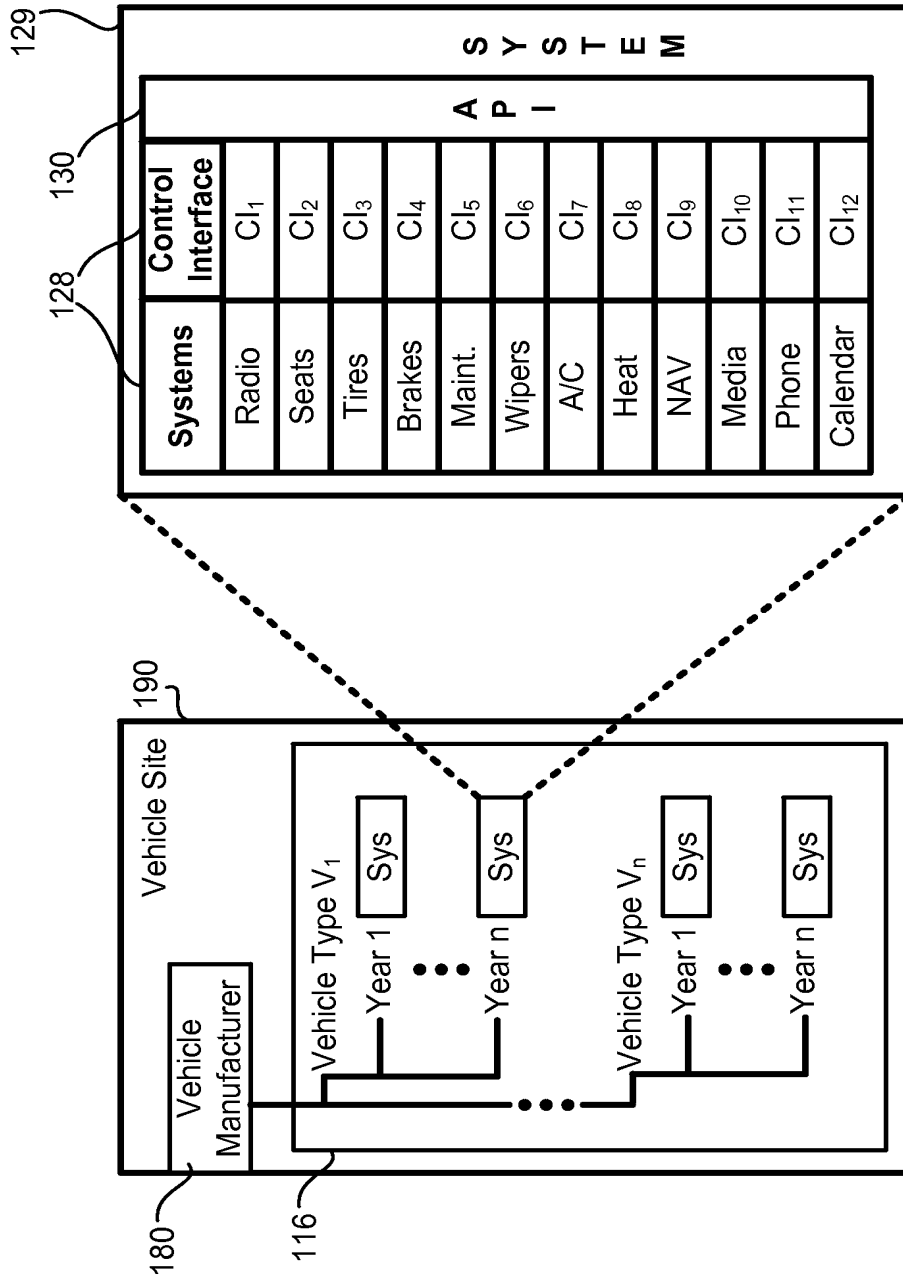


FIG. 2

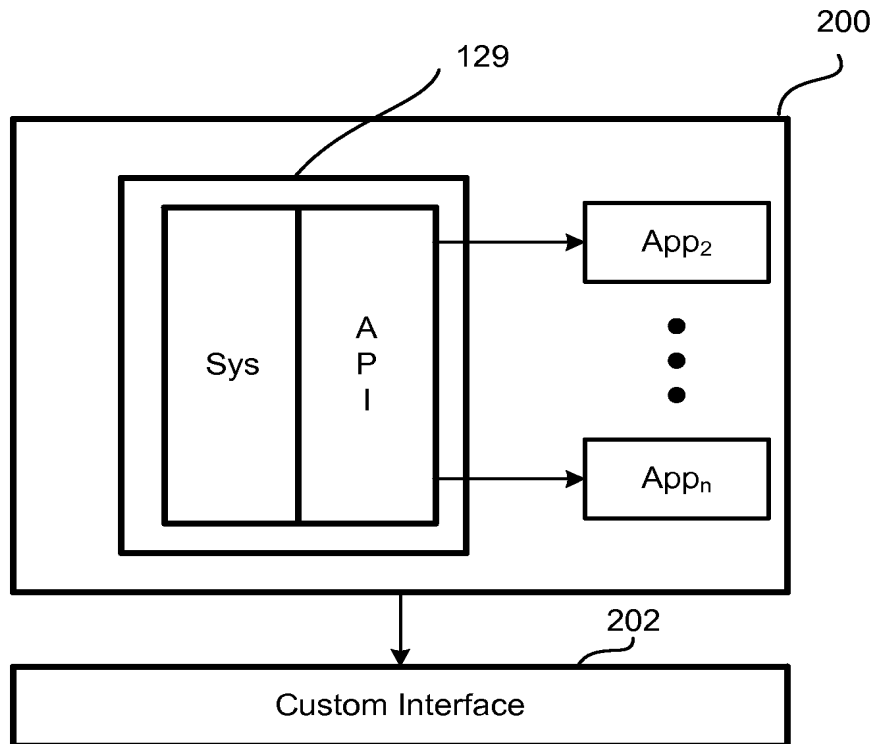


FIG. 3

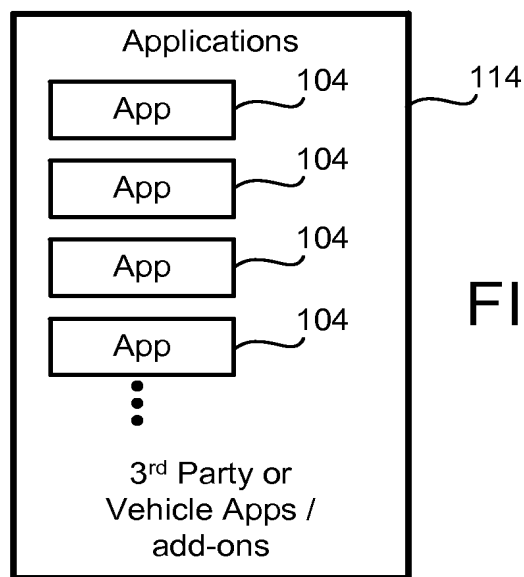


FIG. 4

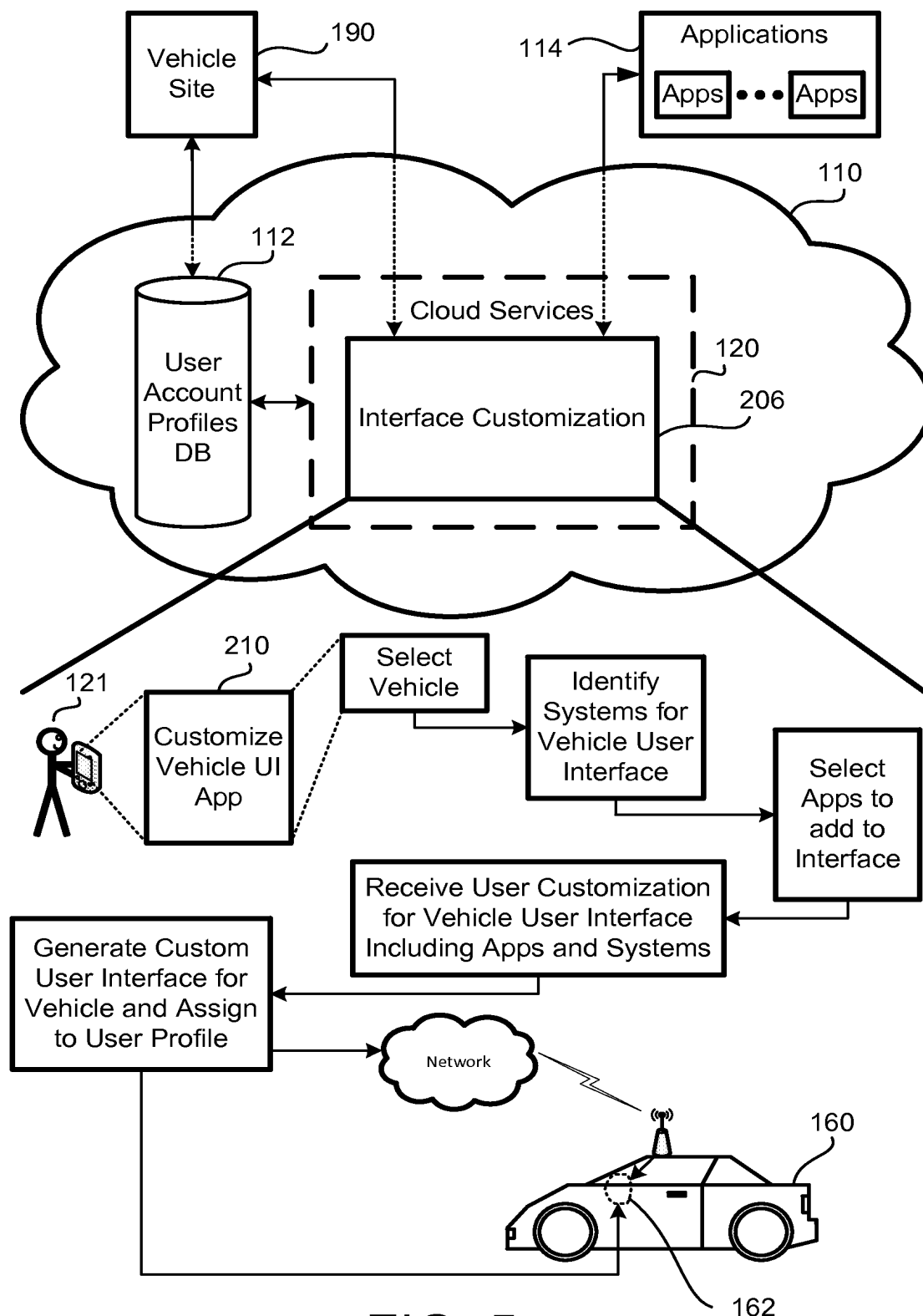
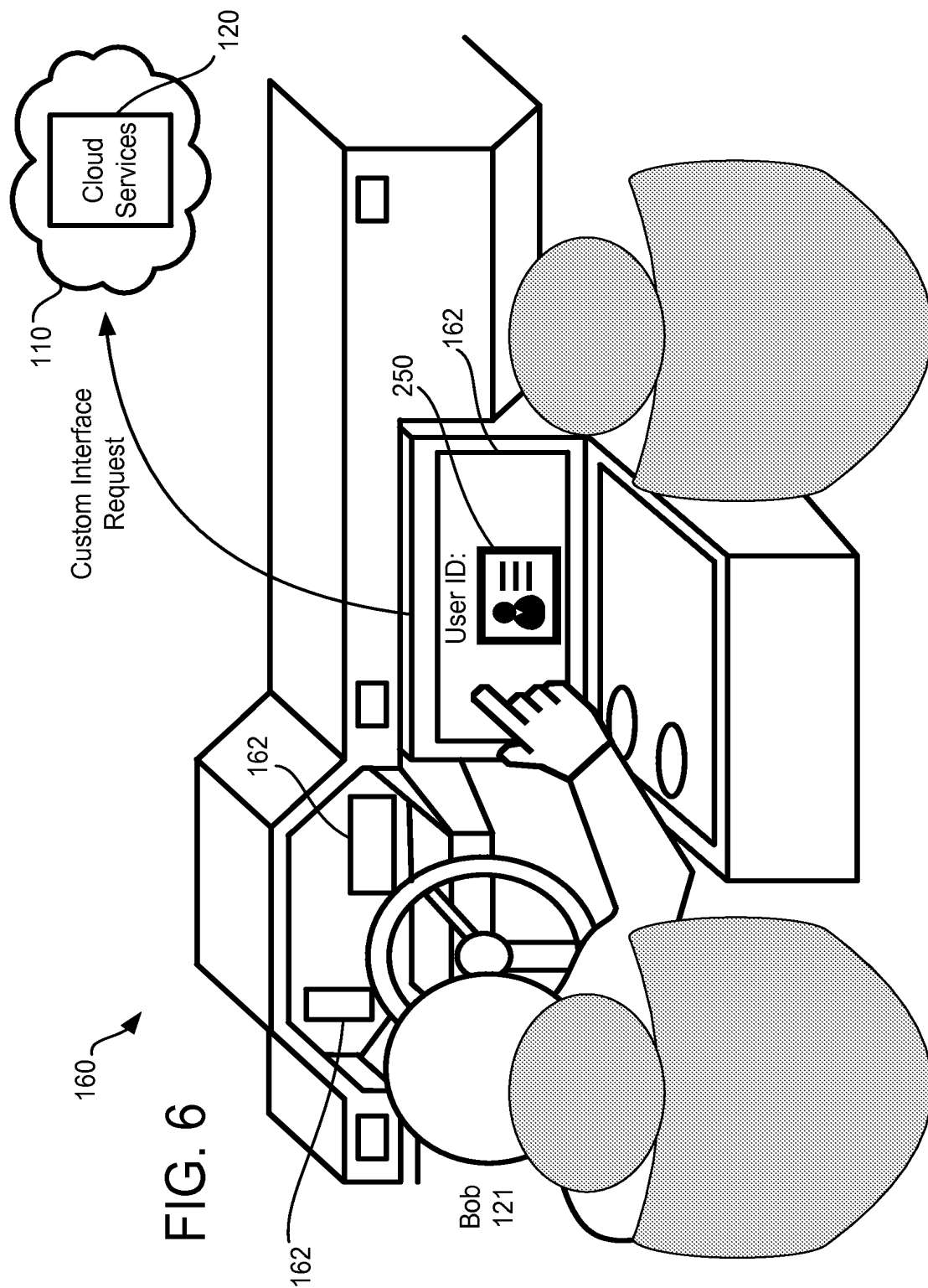
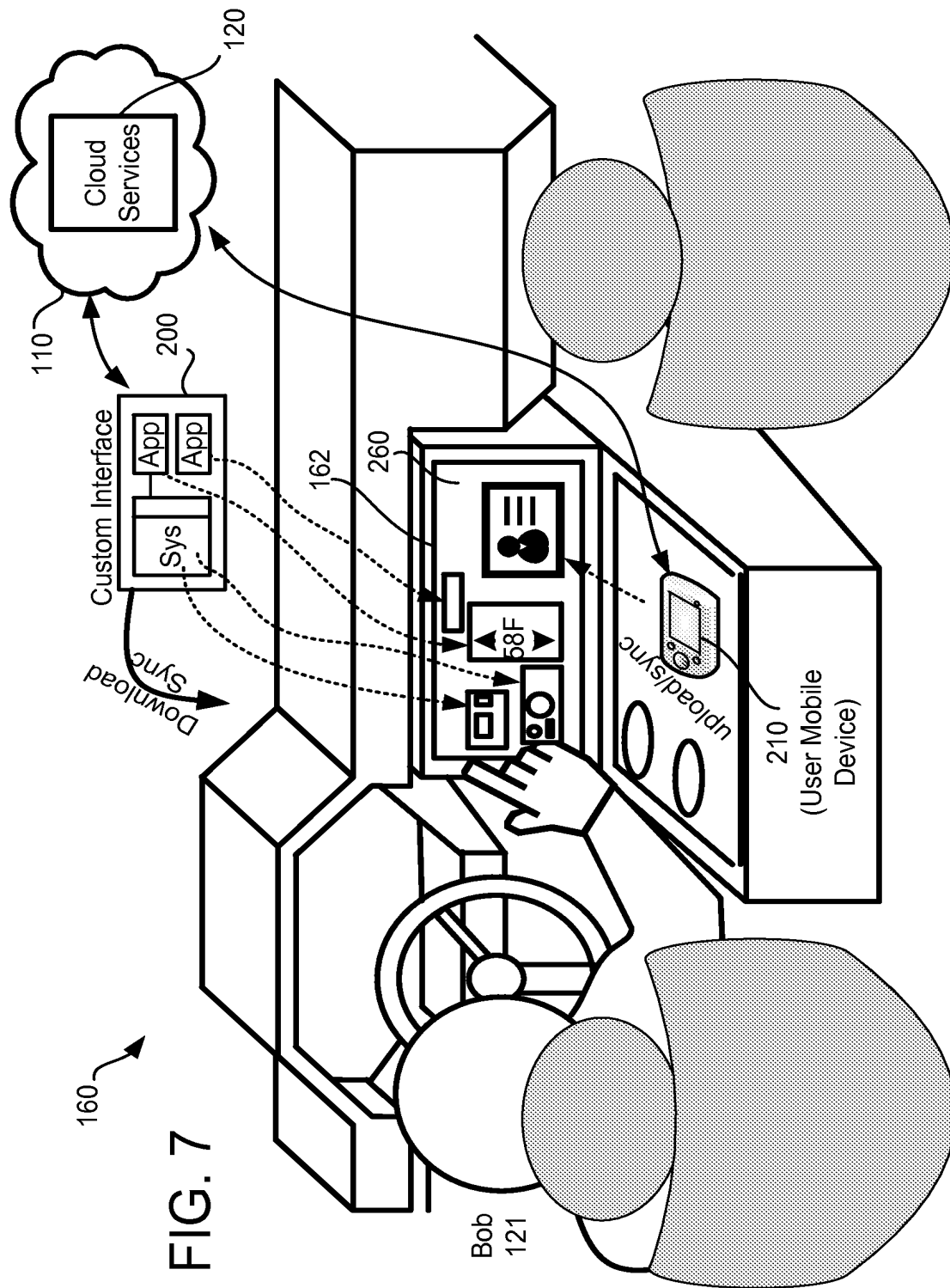


FIG. 5





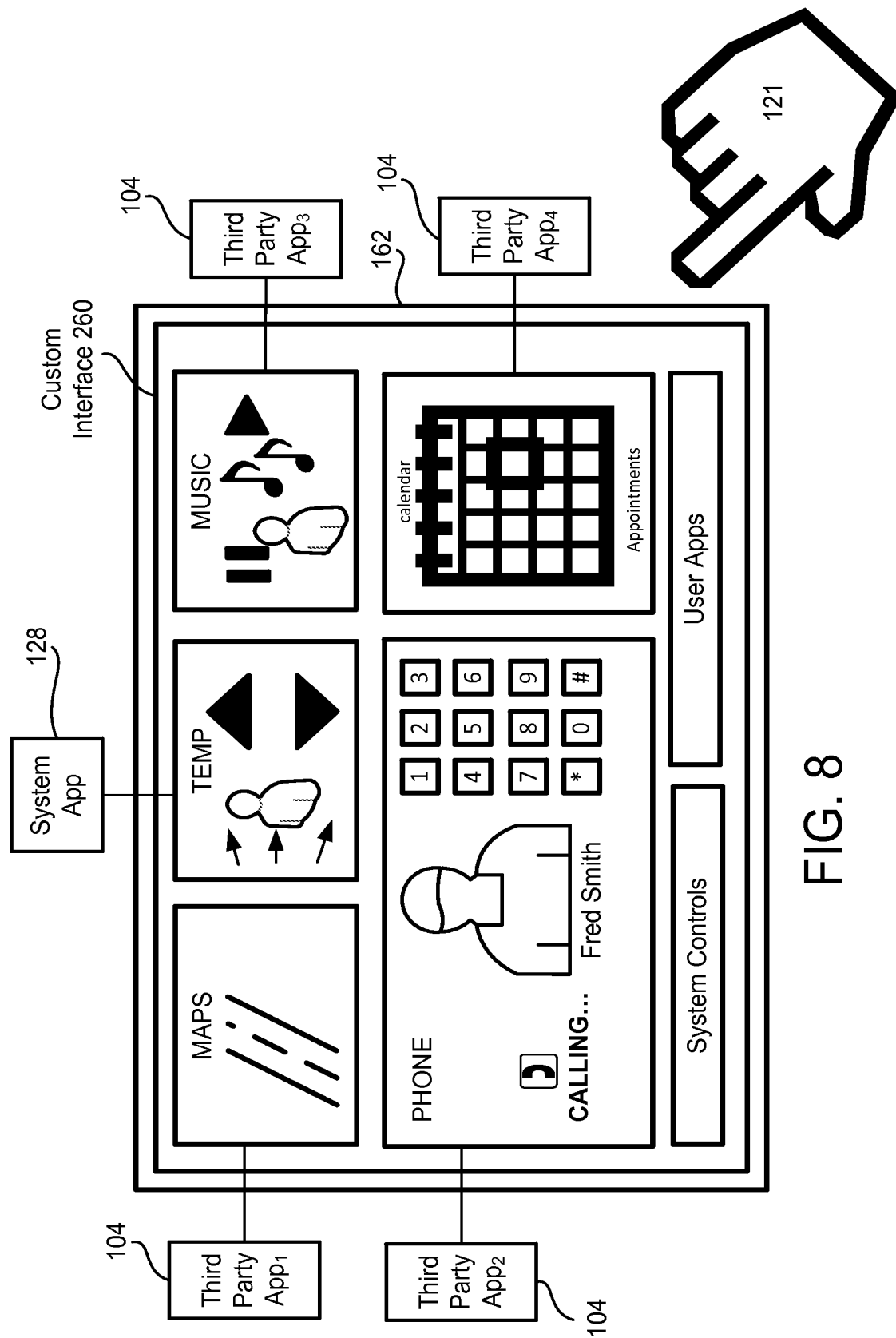


FIG. 8

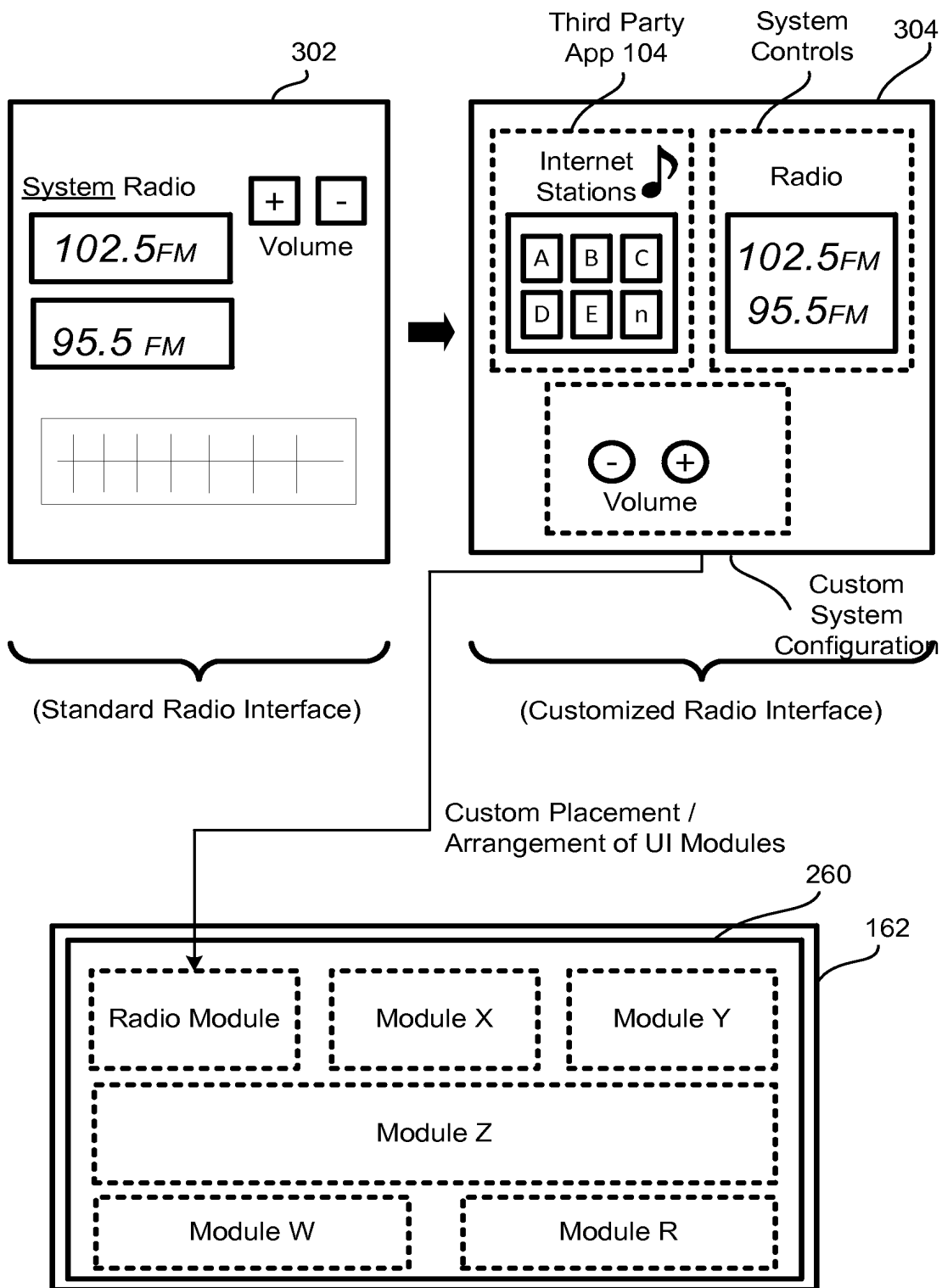


FIG. 9

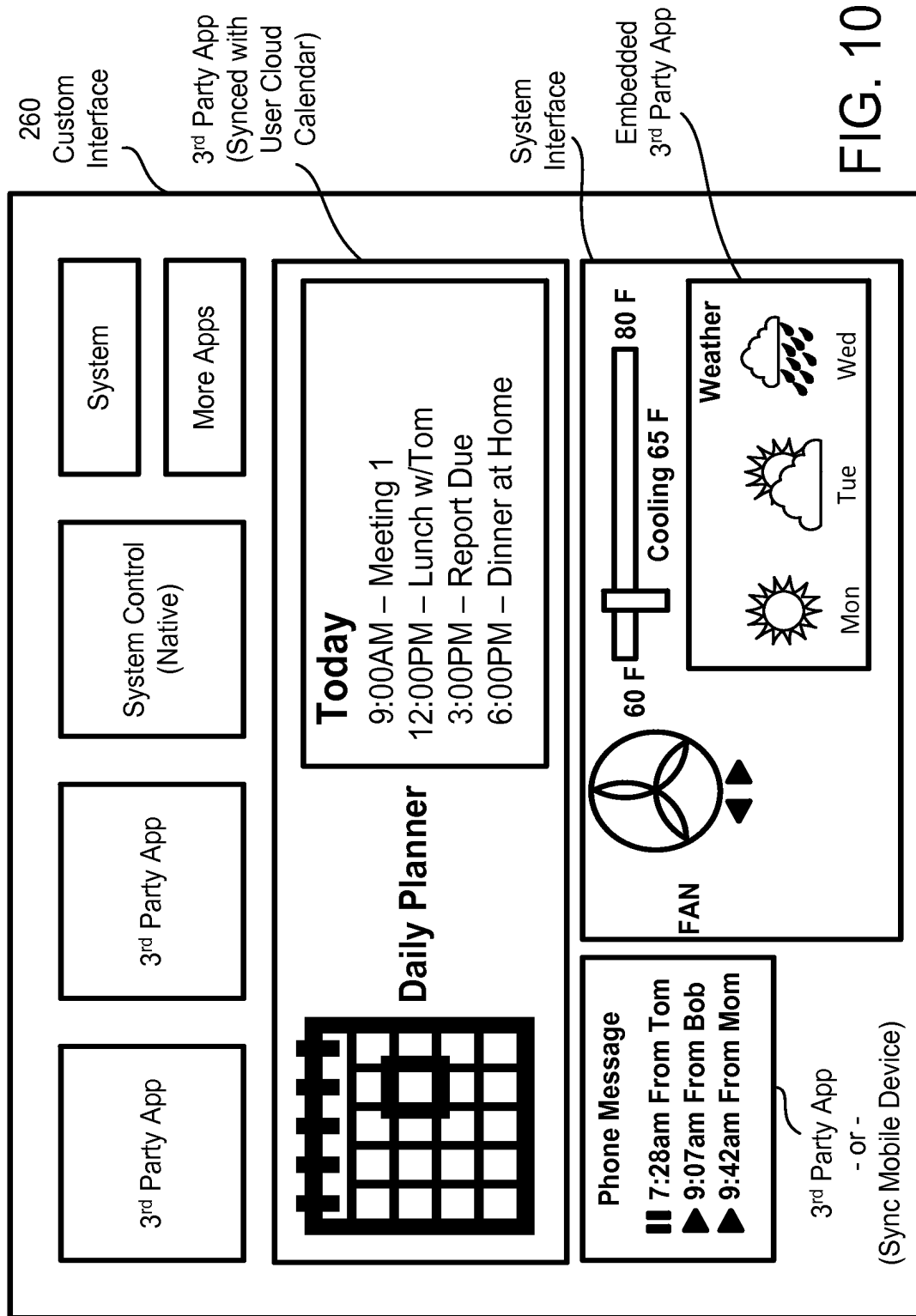


FIG. 10

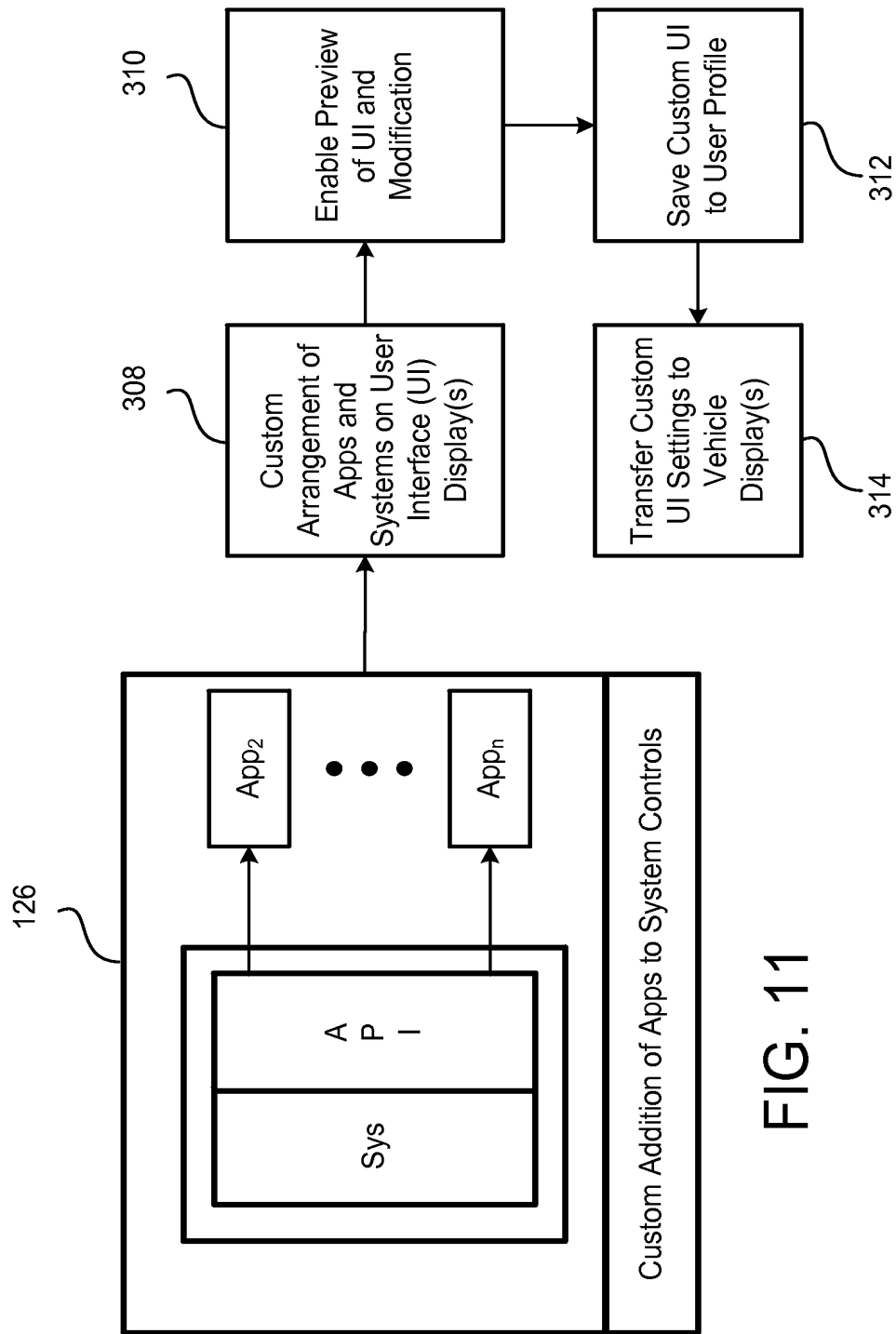


FIG. 11

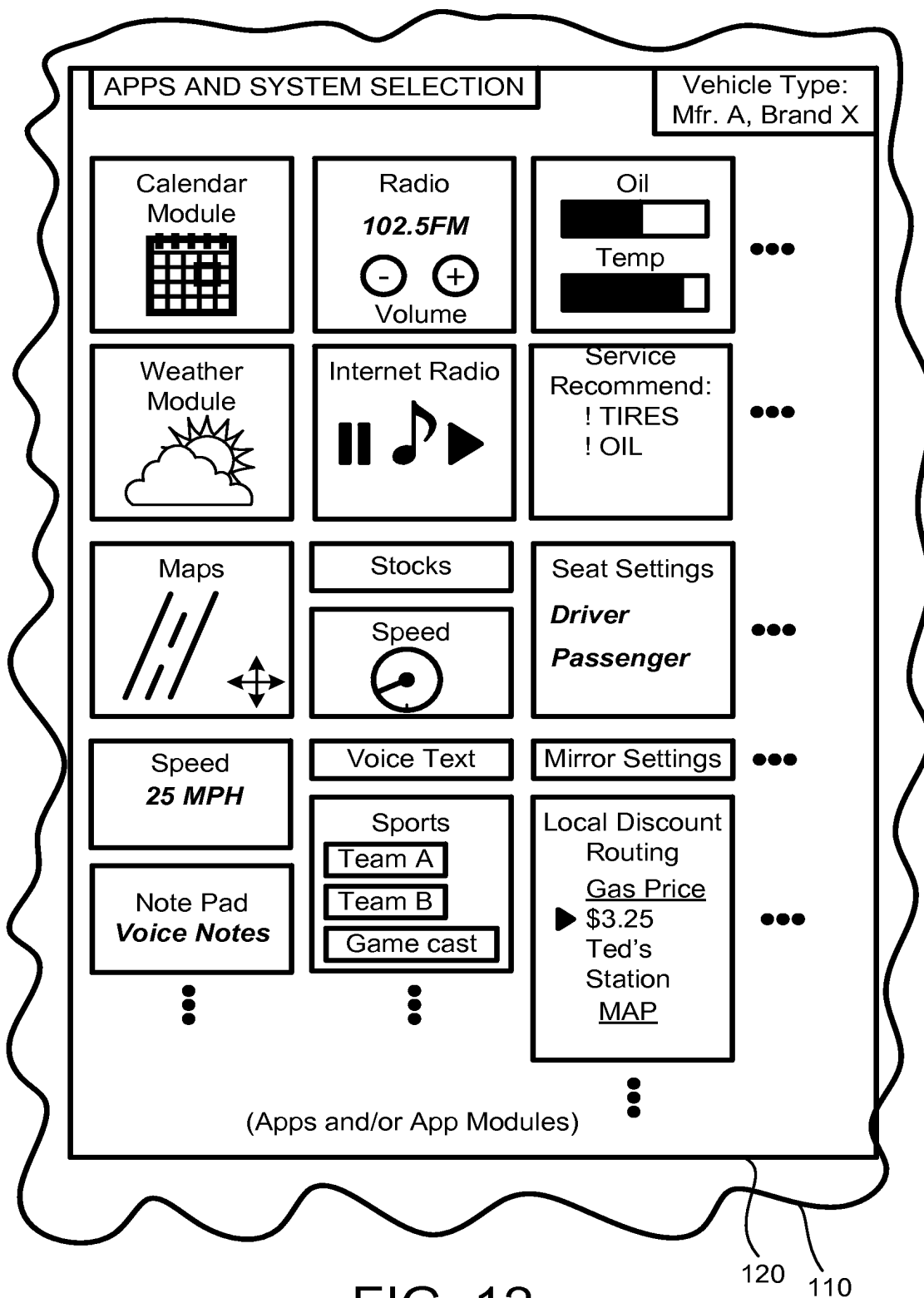


FIG. 12

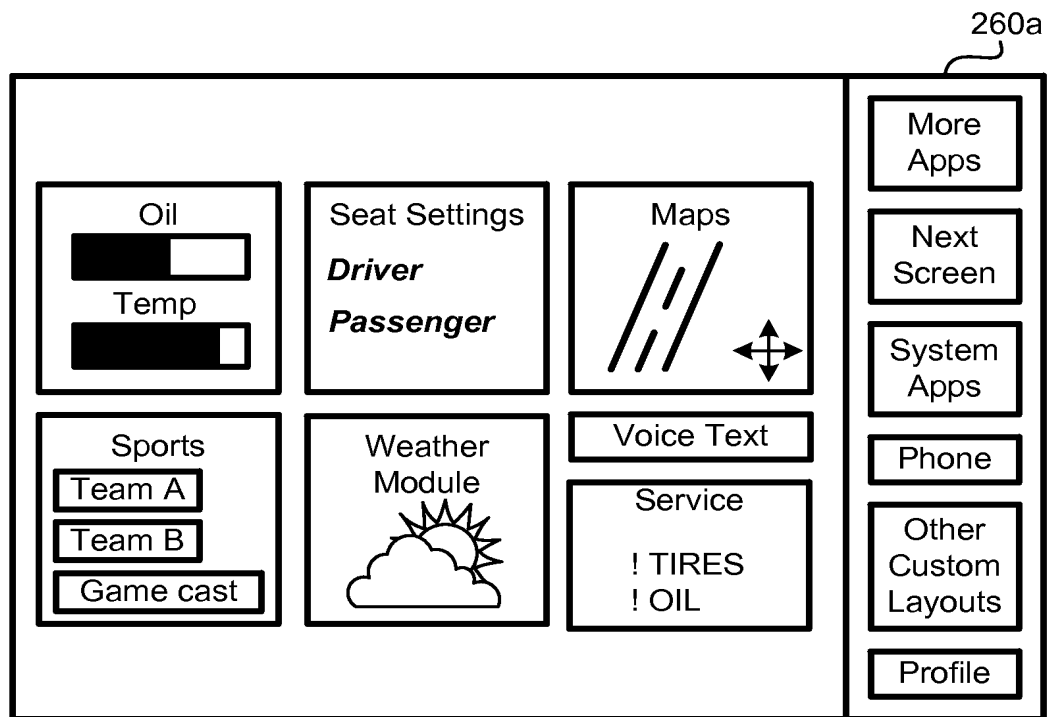


FIG. 13A

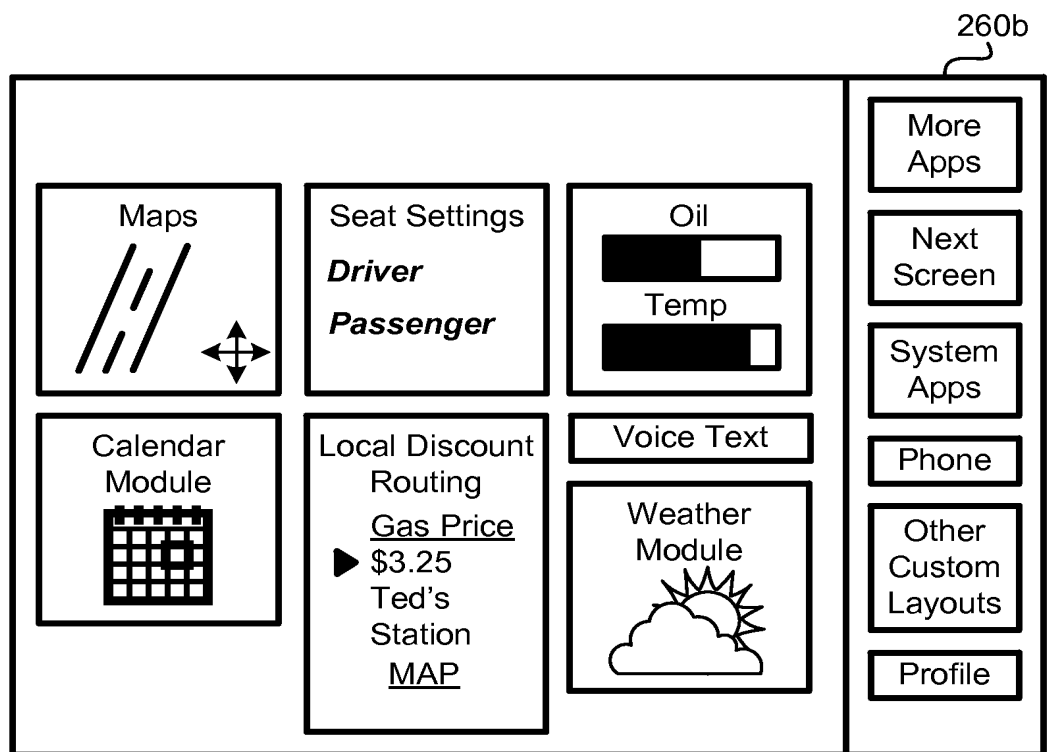


FIG. 13B

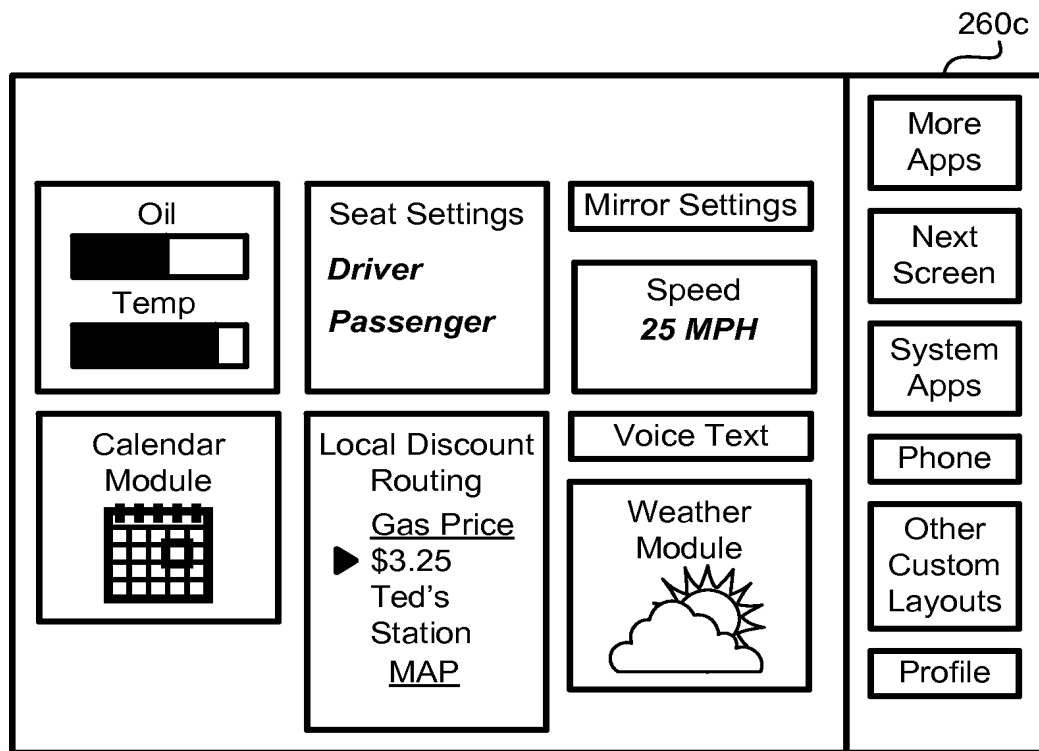


FIG. 13C

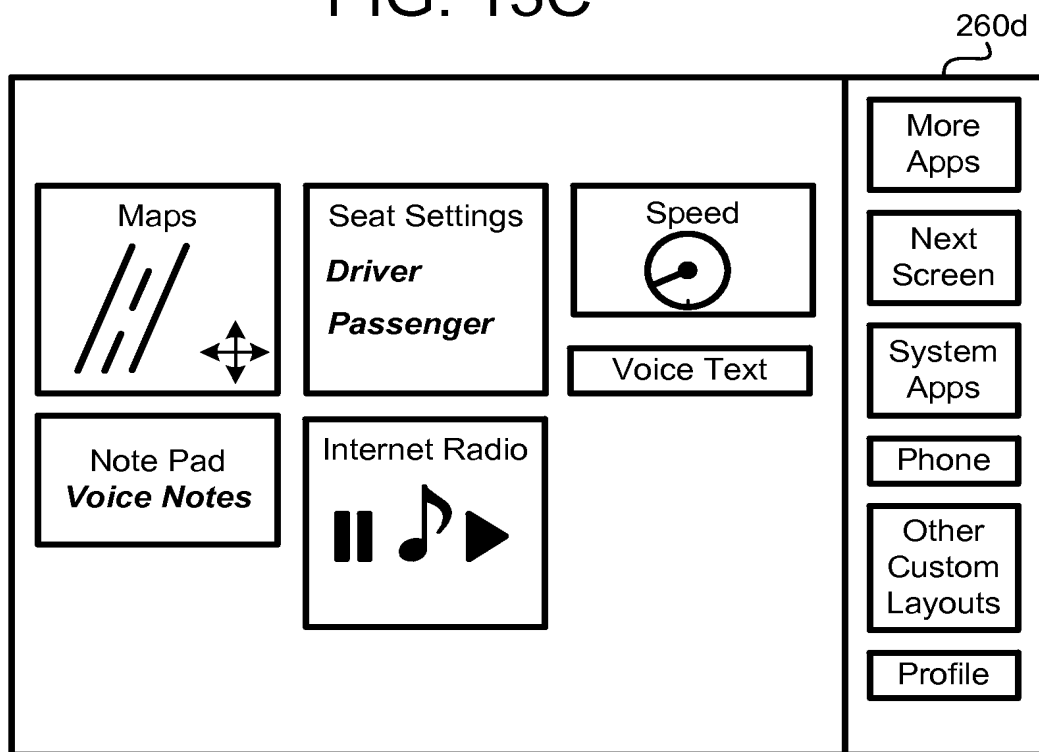


FIG. 13D

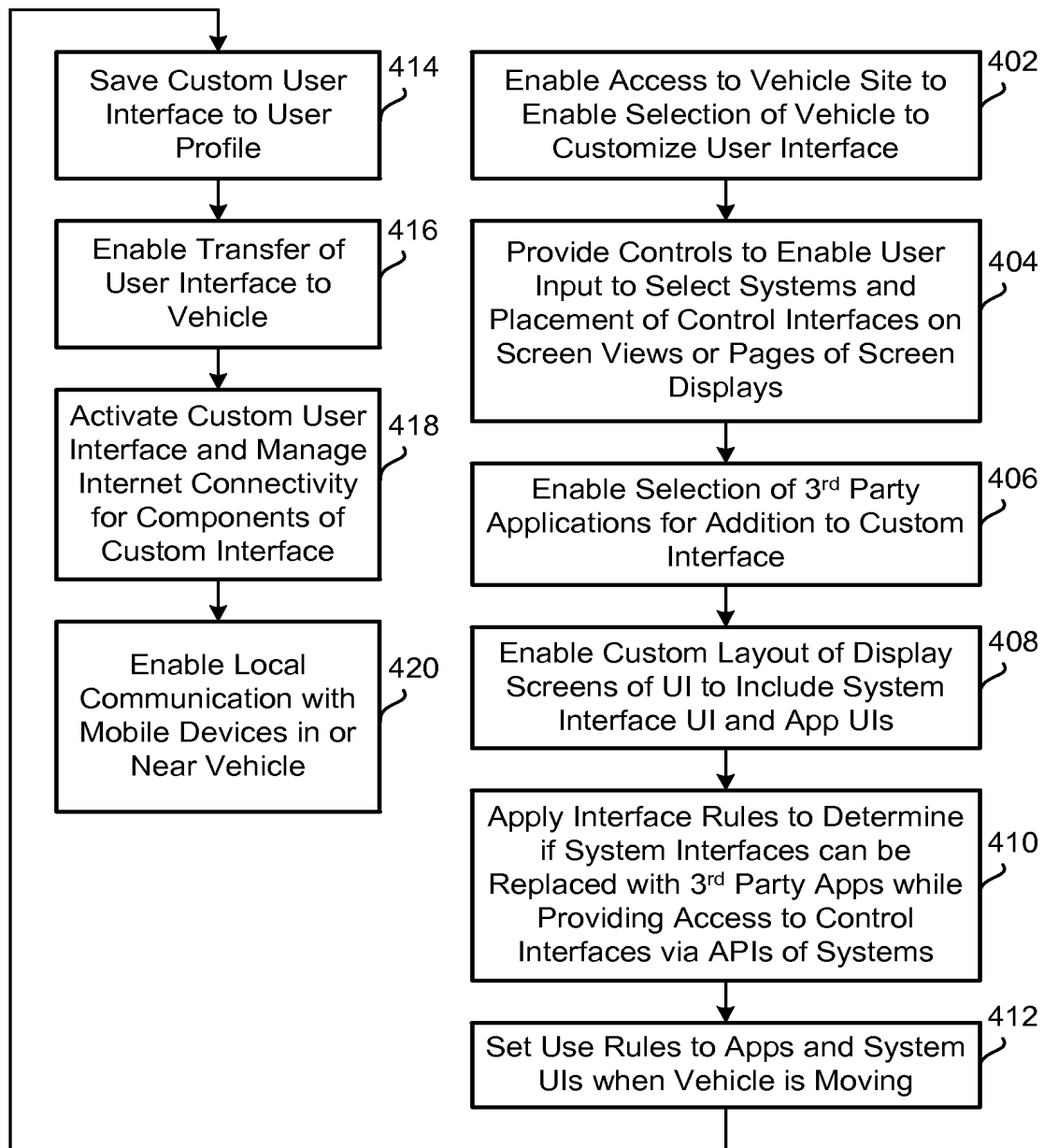


FIG. 14

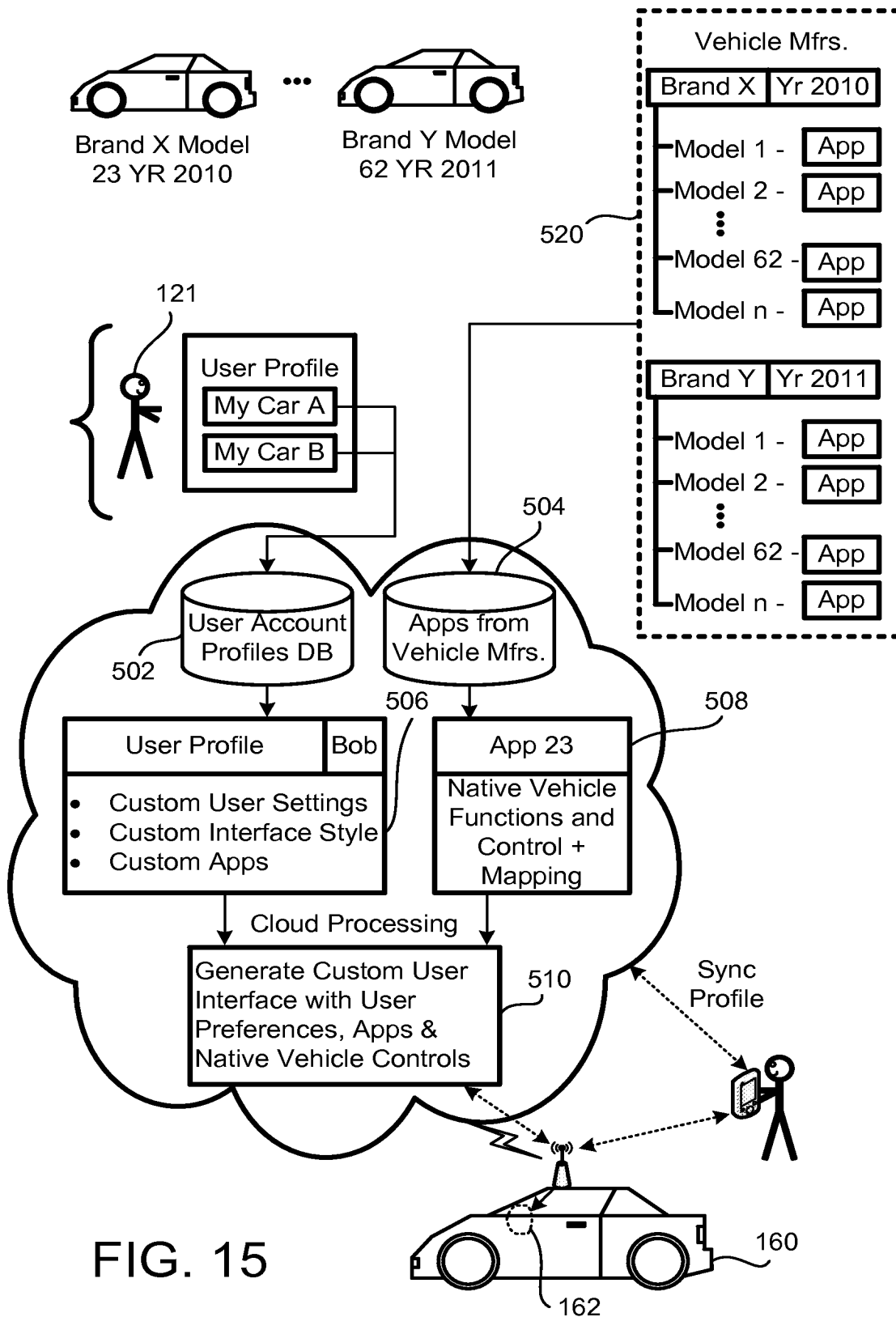


FIG. 15

FIG. 16

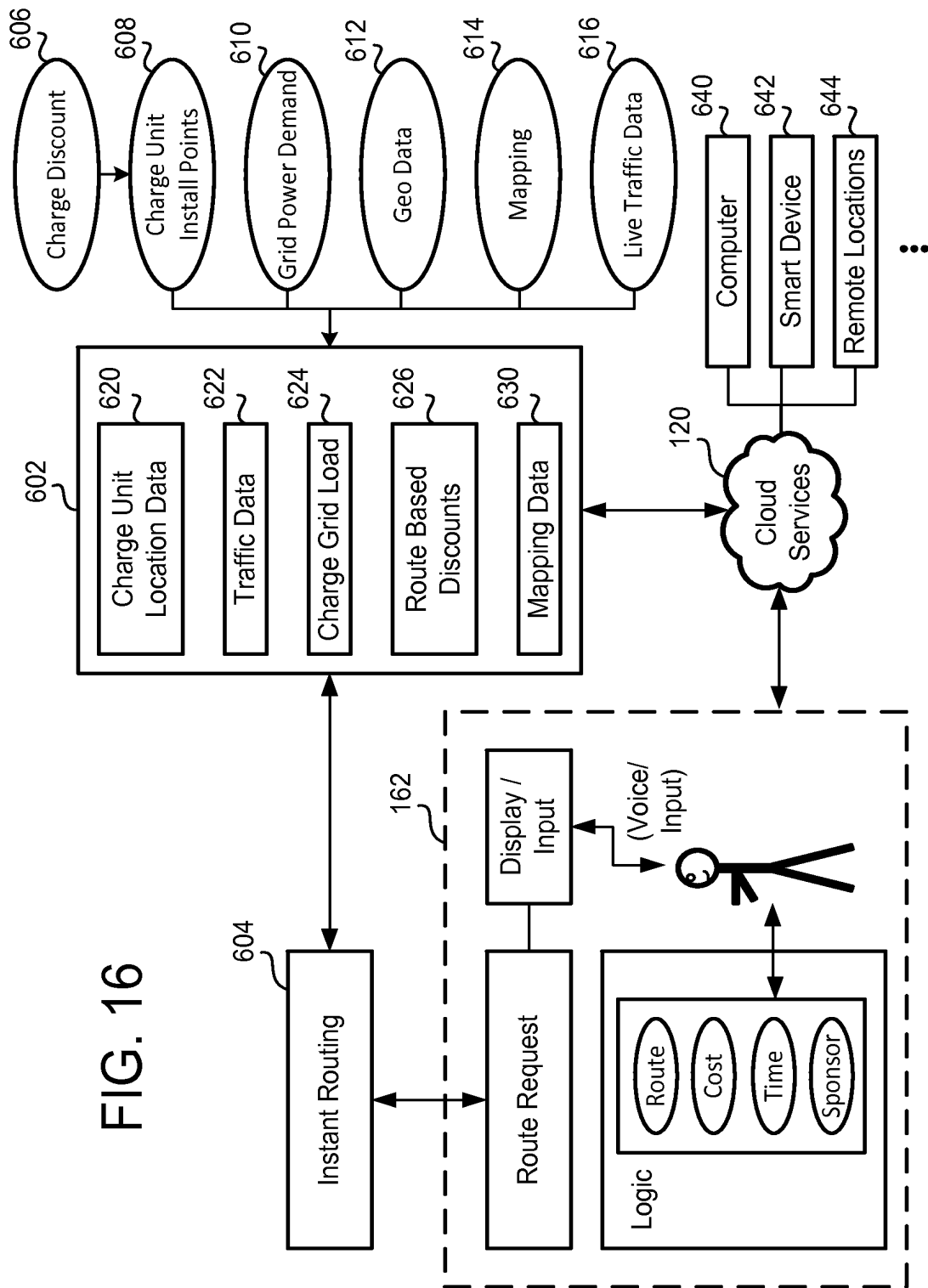
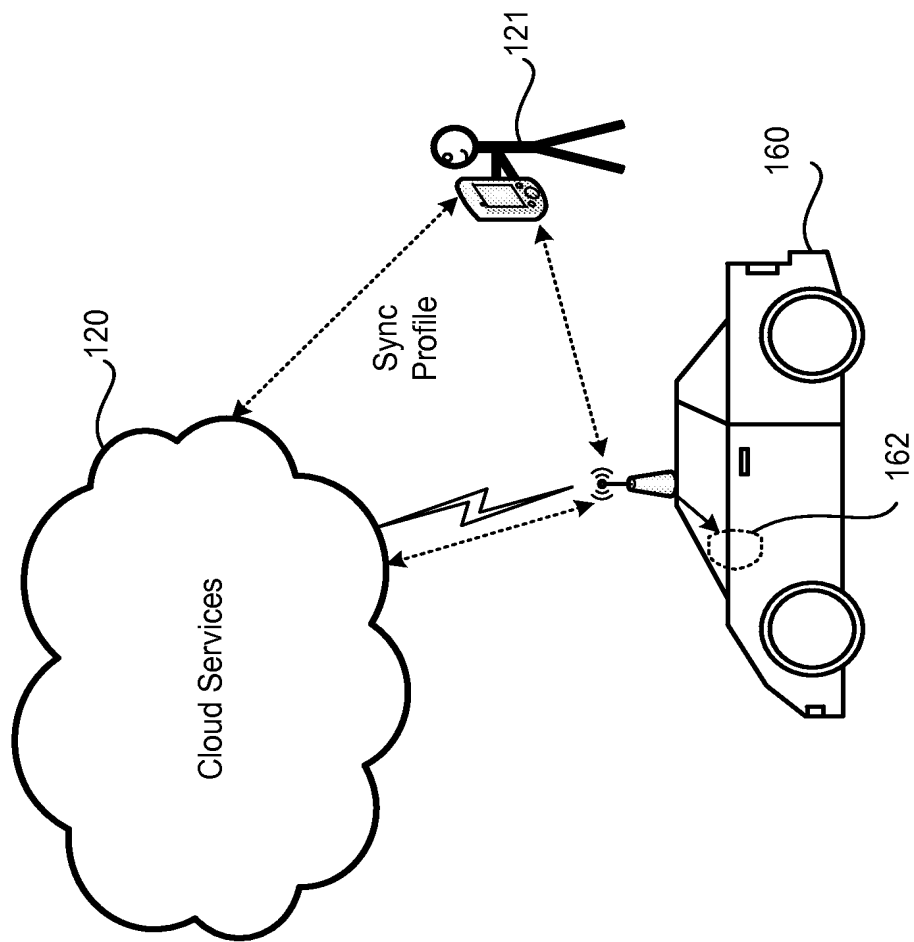


FIG. 17



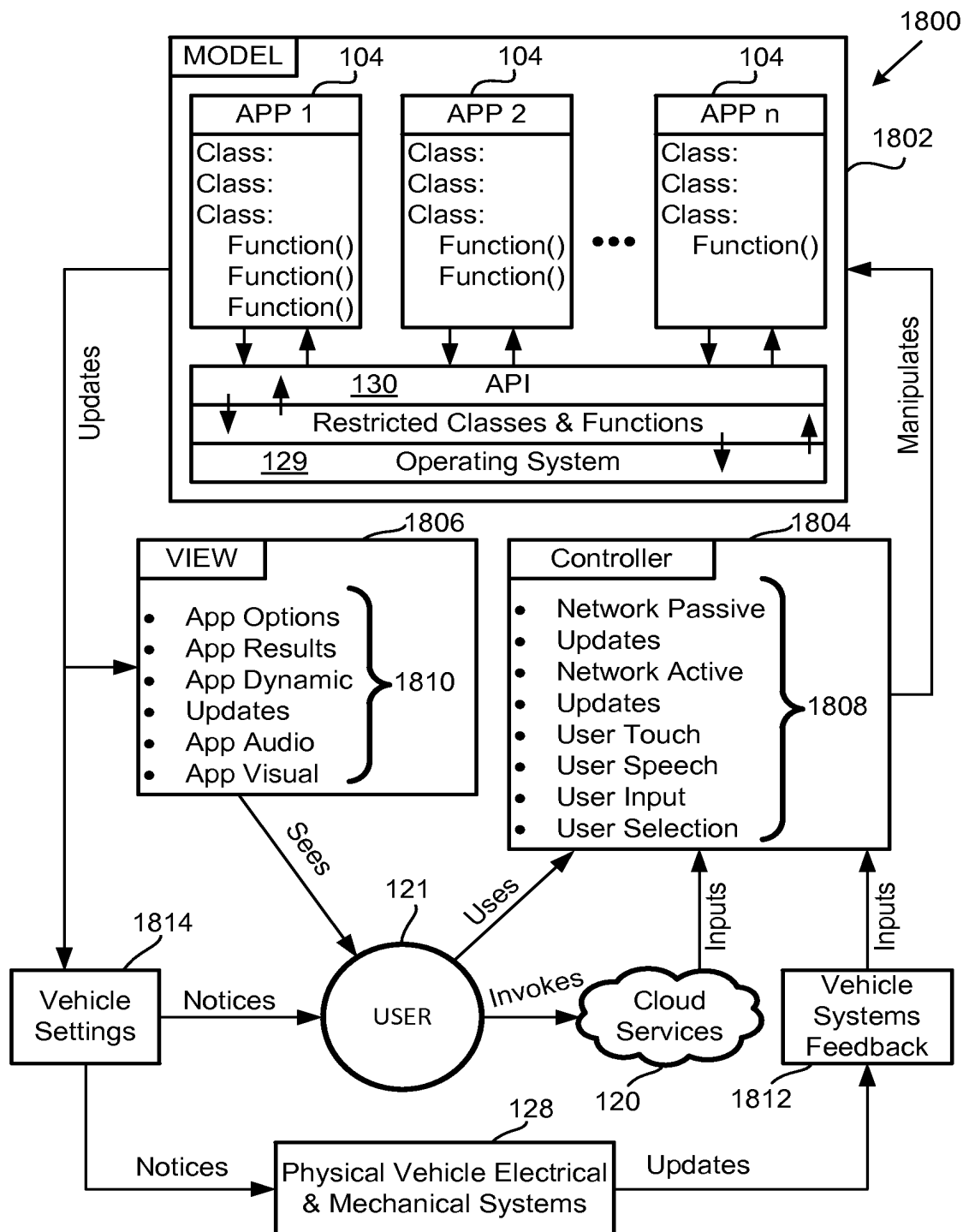


FIG. 18

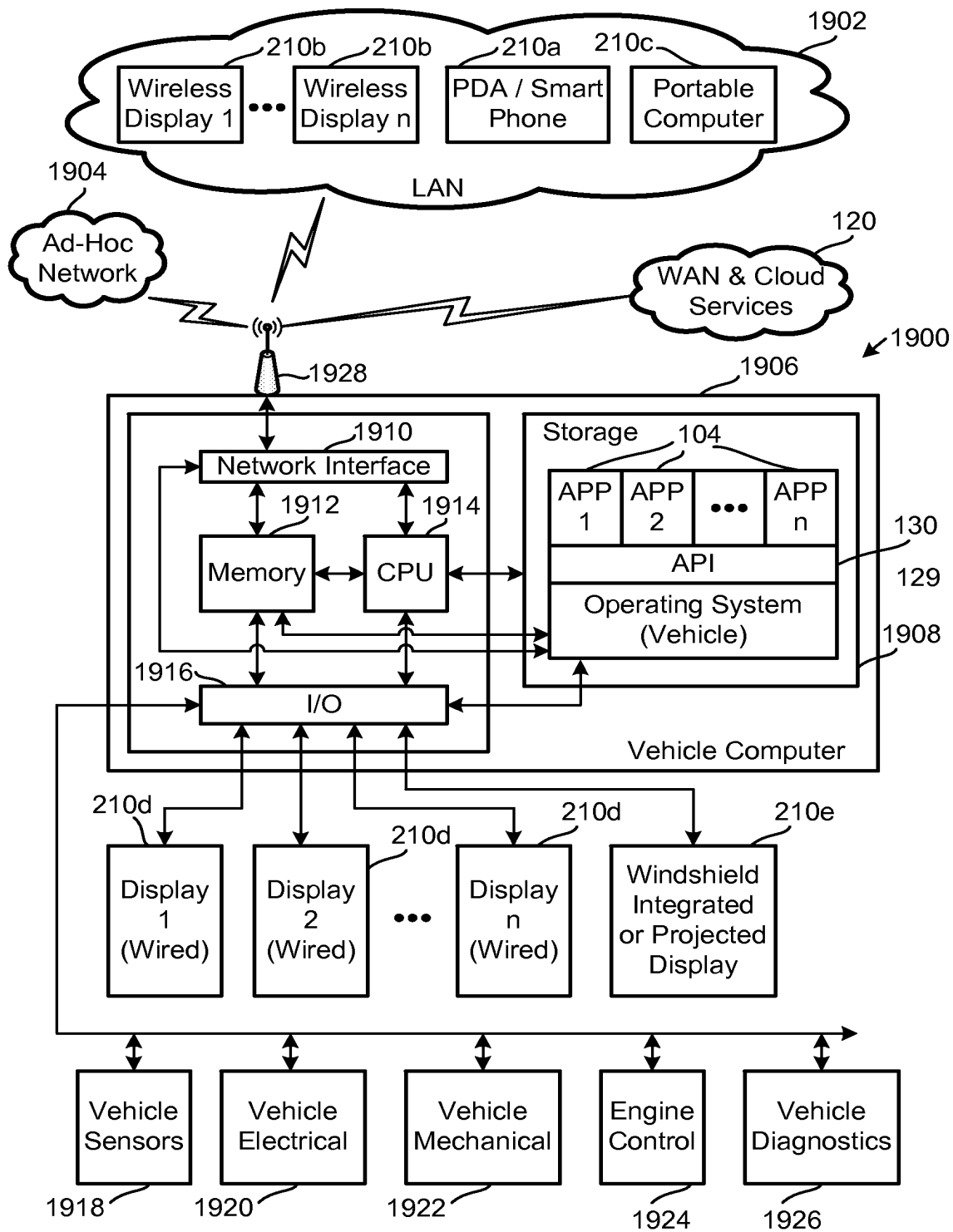


FIG. 19A

Manufacturer API 130
 Class:
 HVAC

1954 — Data declarations:

 currentTempLeft = 60

 currentTempRight = 70

 StatusAC = True

 isAuto = True

 isDual = True

 displaySkin = modern

 scheduleAMtemp(time)

 learnedTemp1 = 74

 learnedTemp1Time = 803am

 learnedTemp1Days = MTWTHF

 learnedTemp2 = 60

 learnedTemp2Time = 513pm

 learnedTemp2Days = MTWTHF

 learnedTemp2AC = on

 IcePresent = false

 fastefrostMode = off

 Errors = false

1956 — Function Declarations

 updateTemp(left,right);

 getTempRight(temp);

 getTempLeft(temp);

 setTempLeft(temp);

 setTempLeft(temp);

 toggleAC();

 toggleAuto();

 toggleDual();

 toggleSkin(skinID);

 scheduleAMTemp(temp, time, date, frequency);

 schedulePMTemp(temp,time,date,frequency);

 learnTempBackgroundRoutine(temp, time, date, frequency);

 updateDisplay()

1950 ↙

FIG. 19B

1970

```
104      EZ FUN HVAC APP
1972      updateTemp(80,76);
        {
            setLeftTo = 80;
            setRightTo = 76;
            theCurrentTempR = getTempRight(temp);
            theCurrentTempL = getTempLeft(temp);
            if setLeftTo != theCurrentTempL
            {
                setTempLeft(left);
            }
            if setRightTo != theCurrentTempR
            {
                setTempRight(right);
            }
            updateDisplay()

            If isError()
            {
                return isError();
            }
        }
    }
```

FIG. 19C

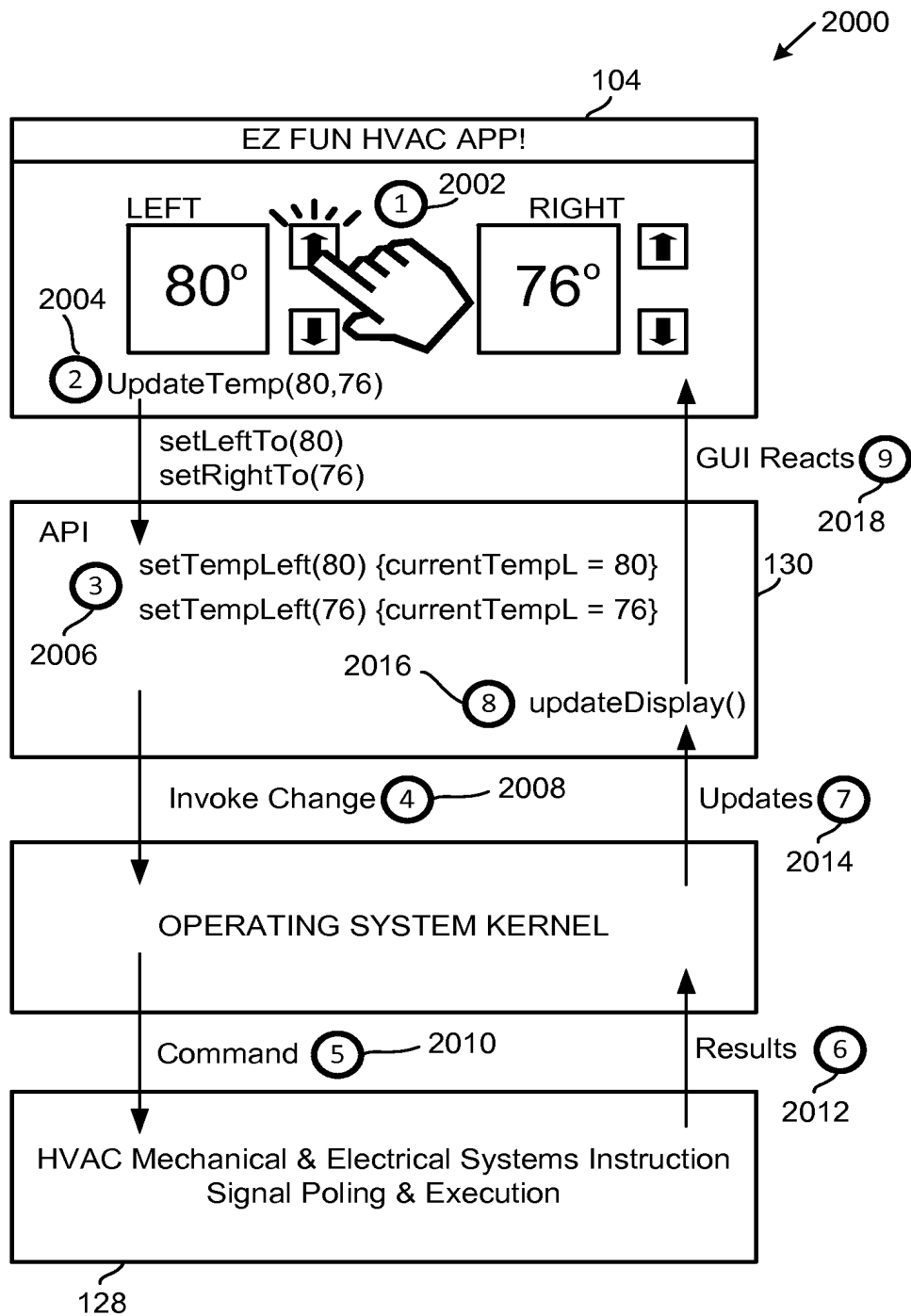


FIG. 20

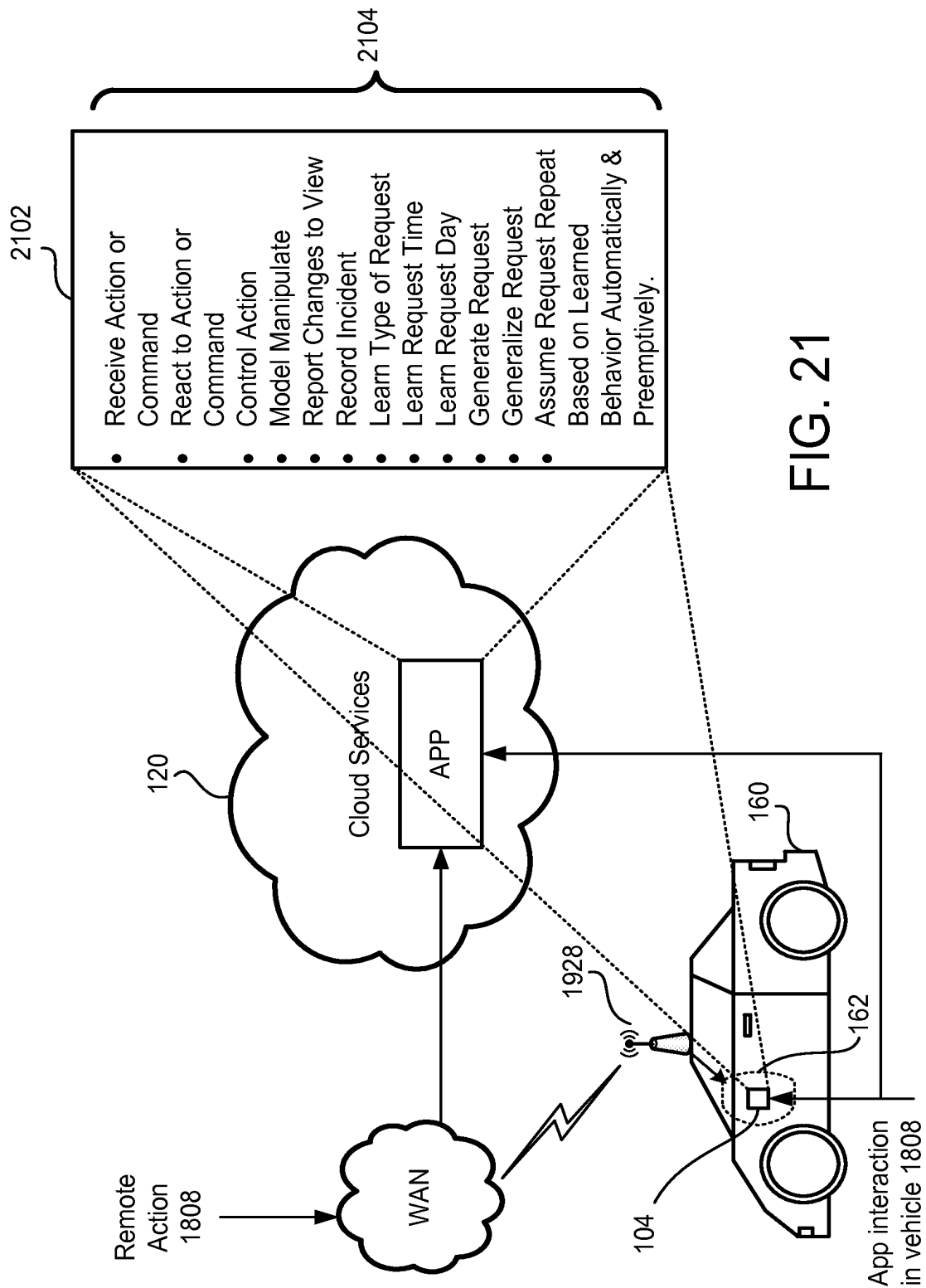


FIG. 21

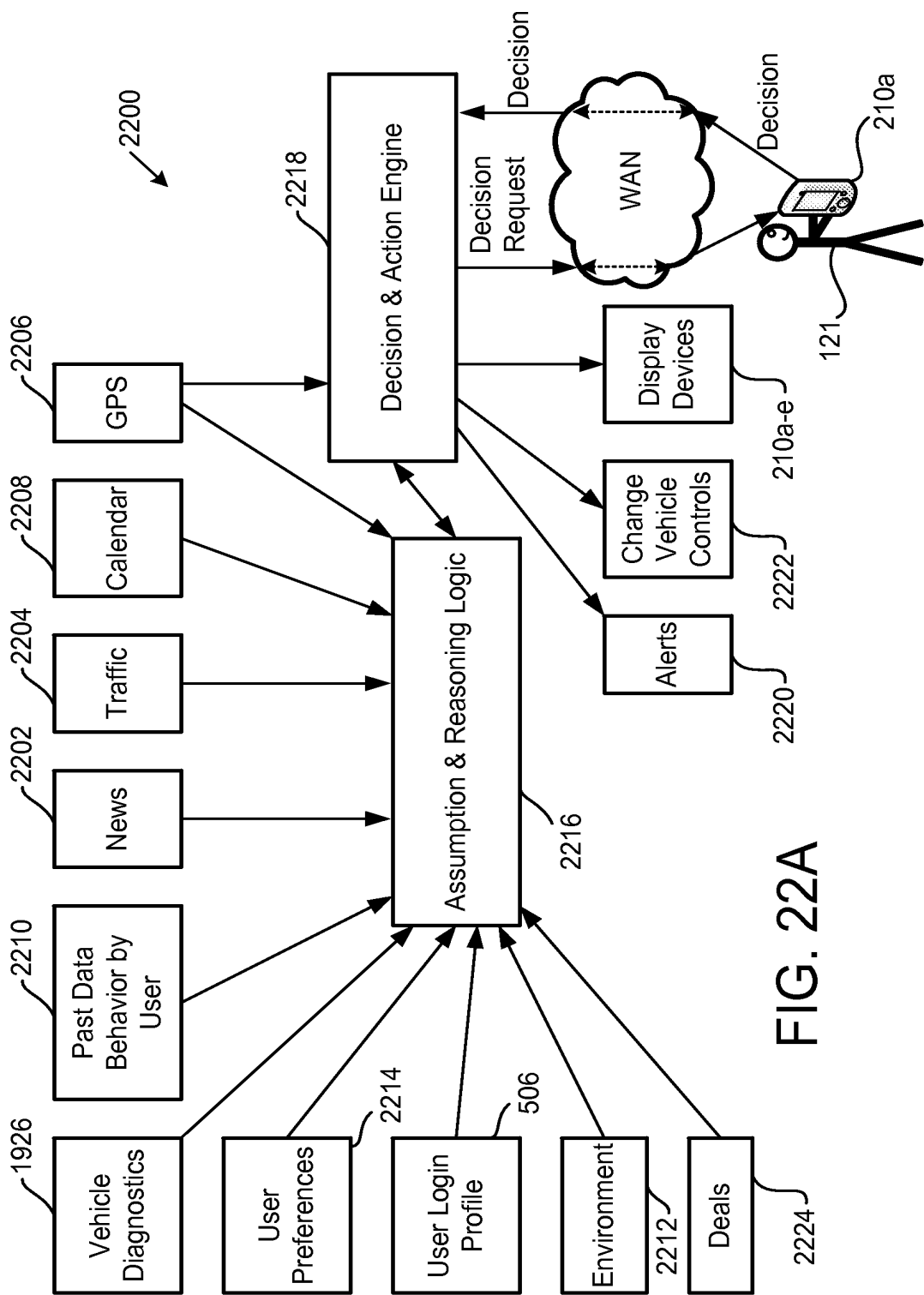


FIG. 22A

Learned Behavior Vehicle Application

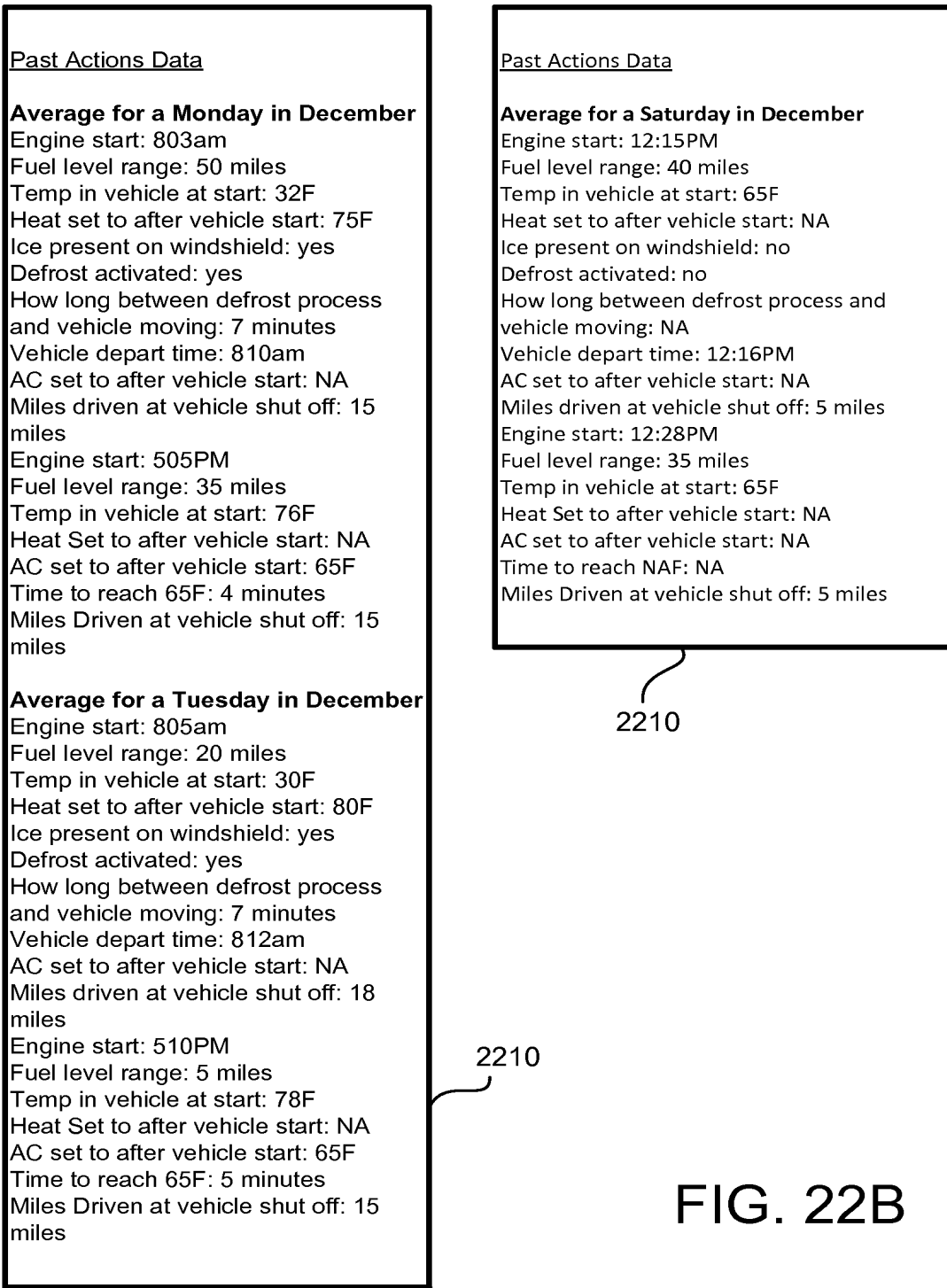


FIG. 22B

Learned Behavior Vehicle Application

Learned Behavior Logic Assumptions and Deductive Reasoning

Check the user's calendar and adjust assumptions based on when the first meeting is, the meeting's location, how long it will take to get the vehicle's temperature and defrosting if applicable completed and if the user needs to re-fuel before arriving at work.

User most likely will start the engine between 803am and 805am

If the temperature is in the 30s inside the vehicle, the user will most likely heat the vehicle to the mid 70s to 80 degrees. Also the user is not likely to use the AC.

If there is ice present on the windshield, the user will most likely activate defrosting measures for 7 minutes before departure.

User usually drives between 15 and 18 miles

The user usually starts the vehicle in the afternoon between 5:05 and 5:10PM

If the temperature is in the mid 70s, the user usually activates the AC to achieve a temperature of 65 degrees

The user is normally comfortable on Saturdays when the temperature in the vehicle is 65 degrees. No advance cooling or heating required. The usually makes frequent stops on Saturday and may benefit from route prioritization apps and Gas/Time saving routes, fuel stations, sponsored paths etc.

2216

FIG. 22C

Learned Behavior Vehicle Application

Potential Actions using Logic & Past Data

Vehicle Learning App Decisions:

Tuesday PM:

The user will most likely need to drive ~16.5 miles on Wednesday morning but only has a range of 5 miles. Email and or text the user that they will need extra time to get to work in the morning due to re-fueling and that the vehicle will be auto starting 12 minutes earlier than usual. Confirm decision is ok with the user.

Wednesday AM:

Vehicle is usually started at ~804am and defrosted for 7 minutes when ice is present and usually departs at 811am, but the user needs 12 minutes to refuel. Start vehicle at 752am and defrost until 759am while heating to 77F because when the temperature is 34F like today inside the vehicle, the user likes the temperature to be about 77F. Set the user's ratio station to 102.5, the most commonly listened to station at this time. Display stock information for the most commonly queries stocks at this time. Check most common commute route in and make sure there aren't delays, else suggest a new route in advance. The user typically goes to coffee on the way to work. Launch the nearest Starbucks coffee location APP. The user usually "one button touch" orders and pays for a medium coffee. Directly from the app.

Friday PM:

Tell the user Saturdays are normally full of errands. Suggest the user send tomorrow's itinerary to the vehicle's app on the network or directly on the vehicle to report if and when the user should get started due to traffic, road construction, suggest fuel locations and ask if 65F degrees is still ok or adjust to a different temperature before the user enters the car around 12pm. Ask the user what time they will most likely depart if its not at 12pm like usual. Download specials and coupons for locations the user typically frequents on Saturdays and display to the user on the vehicle's interface on the user's mobile device.

Saturday PM:

The user said they would like to get started at 10am today but the vehicle interior is more than 20% lower than the user usually likes it. Turn the vehicle on at 955am and heat to 65F since 65F seems to be the user's most commonly used temperature. Display the specials for the nearest dry cleaner since the user typically gets dry cleaning done on Saturdays based on GPS data. Show the user lunch specials nearby and deals to claim since the user usually stops for lunch while out on errands on Saturday.

2218

FIG. 22D

Electronic Acknowledgement Receipt

EFS ID:	15912144
Application Number:	13784823
International Application Number:	
Confirmation Number:	8299
Title of Invention:	Methods and Systems for Defining Custom Vehicle User Interface Configurations and Cloud Services for Managing Applications for the User Interface and Learned Setting Functions
First Named Inventor/Applicant Name:	Angel A. Penilla
Customer Number:	25920
Filer:	Albert S. Penilla
Filer Authorized By:	
Attorney Docket Number:	VOLTP027
Receipt Date:	30-MAY-2013
Filing Date:	05-MAR-2013
Time Stamp:	19:41:01
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	VOLTP027_DrawingsSubmitted.pdf	14440 d868cf476cf6a8b625f626f04a9982977ba1fba	no	1

Warnings:

Information:

2	Drawings-only black and white line drawings	VOLTP027formaldrawingsEfiled.pdf	338029 4a4b33a18e45f8e1ae9271fab85e25cf6da6ce9f	no	27
Warnings:					
Information:					
Total Files Size (in bytes):			352469		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> 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.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> 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.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> 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.</p>					

SCORE Placeholder Sheet for IFW Content

Application Number: 13784823

Document Date: 05/30/2013

The presence of this form in the IFW record indicates that the following document type was received in electronic format on the date identified above. This content is stored in the SCORE database.

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Form Revision Date: February 8, 2006



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
13/784,823	03/05/2013	3661	750	VOLTP027	27	2

CONFIRMATION NO. 8299

UPDATED FILING RECEIPT

25920
MARTINE PENILLA GROUP, LLP
710 LAKEWAY DRIVE
SUITE 200
SUNNYVALE, CA 94085



Date Mailed: 06/11/2013

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. 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**

Inventor(s)

Angel A. Penilla, Sacramento, CA;
Albert S. Penilla, Sunnyvale, CA;

Applicant(s)

Angel A. Penilla, Sacramento, CA;
Albert S. Penilla, Sunnyvale, CA;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This appln claims benefit of 61/745,729 12/24/2012
and is a CIP of 13/452,882 04/22/2012
which claims benefit of 61/478,436 04/22/2011

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

If Required, Foreign Filing License Granted: 04/01/2013

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/784,823**

Projected Publication Date: Request for Non-Publication Acknowledged

Non-Publication Request: Yes

Early Publication Request: No

**** SMALL ENTITY ****

Title

Methods and Systems for Defining Custom Vehicle User Interface Configurations and Cloud Services for Managing Applications for the User Interface and Learned Setting Functions

Preliminary Class

701

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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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.

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Title 37, Code of Federal Regulations, 5.11 & 5.15

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NOT GRANTED

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 13/784,823	
APPLICATION AS FILED - PART I							
(Column 1)		(Column 2)		SMALL ENTITY		OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	70		N/A	
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	300		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	360		N/A	
TOTAL CLAIMS (37 CFR 1.16(j))	27	minus 20 = * 7	x 40 =	280	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2	minus 3 = *	x 210 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
			TOTAL	1010		TOTAL	
* If the difference in column 1 is less than zero, enter "0" in column 2.							
APPLICATION AS AMENDED - PART II							
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY	
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)
	Total (37 CFR 1.16(i))	*	Minus **	=	x =	OR	x =
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =	OR	x =
	Application Size Fee (37 CFR 1.16(s))					OR	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR	
				TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY	
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)
	Total (37 CFR 1.16(i))	*	Minus **	=	x =	OR	x =
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =	OR	x =
	Application Size Fee (37 CFR 1.16(s))					OR	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR	
				TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.							

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	13/784,823
				Filing Date	March 5, 2014
				First Named Inventor	Angel Penilla
				Art Unit	
				Examiner Name	
				Attorney Docket Number	VOLTP027

U.S. Patent Documents

Examiner Initials	Initials	Reference	REF. NO.	
Examiner Initials		US20020064258	Reference No.	1
Examiner Initials		US20020085043	Reference No.	2
Examiner Initials		US20020133273	Reference No.	3
Examiner Initials		US20030137277	Reference No.	4
Examiner Initials		US20030153278	Reference No.	5
Examiner Initials		US20030205619	Reference No.	6
Examiner Initials		US20030234325	Reference No.	7
Examiner Initials		US20040046506	Reference No.	8
Examiner Initials		US20040064235	Reference No.	9
Examiner Initials		US20040092253	Reference No.	10
Examiner Initials		US20040093155	Reference No.	11
Examiner Initials		US20040265671	Reference No.	12
Examiner Initials		US20050021190	Reference No.	13
Examiner Initials		US20050044245	Reference No.	14
Examiner Initials		US20050231119	Reference No.	15
Examiner Initials		US20060125620	Reference No.	16
Examiner Initials		US20060182241	Reference No.	17
Examiner Initials		US20060282381	Reference No.	18
Examiner Initials		US20060287783	Reference No.	19
Examiner Initials		US20070068714	Reference No.	20
Examiner Initials		US20070126395	Reference No.	21
Examiner Initials		US20070282495	Reference No.	22
Examiner Initials		US20080039979	Reference No.	23
Examiner Initials		US20080039989	Reference No.	24
Examiner Initials		US20080040129	Reference No.	25
Examiner Initials		US20080040223	Reference No.	26
Examiner Initials		US20080040295	Reference No.	27
Examiner Initials		US20080052145	Reference No.	28
Examiner Initials		US20080086411	Reference No.	29
Examiner Initials		US20080097904	Reference No.	30
Examiner Initials		US20080155008	Reference No.	31
Examiner Initials		US20080180027	Reference No.	32
Examiner Initials		US20080203973	Reference No.	33
Examiner Initials		US20080228613	Reference No.	34
Examiner Initials		US20080281663	Reference No.	35
Examiner Initials		US20080294283	Reference No.	36
Examiner Initials		US20080312782	Reference No.	37
Examiner Initials		US20090011639	Reference No.	38
Examiner Initials		US20090021213	Reference No.	39
Examiner Initials		US20090021385	Reference No.	40

Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	13/784,823
				Filing Date	March 5, 2014
				First Named Inventor	Angel Penilla
				Art Unit	
				Examiner Name	
				Attorney Docket Number	VOLTP027

Examiner Initials		US20090030712	Reference No.	41
Examiner Initials		US20090043519	Reference No.	42
Examiner Initials		US20090058355	Reference No.	43
Examiner Initials		US20090066287	Reference No.	44
Examiner Initials		US20090076913	Reference No.	45
Examiner Initials		US20090082957	Reference No.	46
Examiner Initials		US20090091291	Reference No.	47
Examiner Initials		US20090092864	Reference No.	48
Examiner Initials		US20090144001	Reference No.	49
Examiner Initials		US20090144001	Reference No.	50
Examiner Initials		US20090157289	Reference No.	51
Examiner Initials		US20090164473	Reference No.	52
Examiner Initials		US20090174365	Reference No.	53
Examiner Initials		US20090177580	Reference No.	54
Examiner Initials		US20090210357	Reference No.	55
Examiner Initials		US20090287578	Reference No.	56
Examiner Initials		US20090312903	Reference No.	57
Examiner Initials		US20090313032	Reference No.	58
Examiner Initials		US20090313033	Reference No.	59
Examiner Initials		US20090313034	Reference No.	60
Examiner Initials		US20090313098	Reference No.	61
Examiner Initials		US20090313104	Reference No.	62
Examiner Initials		US20090313174	Reference No.	63
Examiner Initials		US2010/0280956	Reference No.	64
Examiner Initials		US20100013434	Reference No.	65
Examiner Initials		US20100017045	Reference No.	66
Examiner Initials		US20100017249	Reference No.	67
Examiner Initials		US20100049396	Reference No.	68
Examiner Initials		US20100049533	Reference No.	69
Examiner Initials		US20100049610	Reference No.	70
Examiner Initials		US20100049639	Reference No.	71
Examiner Initials		US20100049737	Reference No.	72
Examiner Initials		US20100057306	Reference No.	73
Examiner Initials		US20100112843	Reference No.	74
Examiner Initials		US20100141206	Reference No.	75
Examiner Initials		US20100161481	Reference No.	76
Examiner Initials		US20100161482	Reference No.	77
Examiner Initials		US20100169008	Reference No.	78
Examiner Initials		US20100198508	Reference No.	79
Examiner Initials		US20100198513	Reference No.	80
Examiner Initials		US20100211340	Reference No.	81
Examiner Initials		US20100211643	Reference No.	82

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	13/784,823
				Filing Date	March 5, 2014
				First Named Inventor	Angel Penilla
				Art Unit	
				Examiner Name	
				Attorney Docket Number	VOLTP027

Examiner Initials		US20100222939	Reference No.	83
Examiner Initials		US20100268426	Reference No.	84
Examiner Initials		US20100304349	Reference No.	85
Examiner Initials		US20110032110	Reference No.	86
Examiner Initials		US20110074350	Reference No.	87
Examiner Initials		US20110074351	Reference No.	88
Examiner Initials		US20110077809	Reference No.	89
Examiner Initials		US20110106329	Reference No.	90
Examiner Initials		US20110112969	Reference No.	91
Examiner Initials		US20110130885	Reference No.	92
Examiner Initials		US20110187521	Reference No.	93
Examiner Initials		US20110191265	Reference No.	94
Examiner Initials		US20110193522	Reference No.	95
Examiner Initials		US20110202218	Reference No.	96
Examiner Initials		US20110246252	Reference No.	97
Examiner Initials		US20110279083	Reference No.	98
Examiner Initials		US20110309929	Reference No.	99
Examiner Initials		US2012/0233077	Reference No.	100
Examiner Initials		US20120013300	Reference No.	101
Examiner Initials		US20120019204	Reference No.	102
Examiner Initials		US20120025765	Reference No.	103
Examiner Initials		US20120028680	Reference No.	104
Examiner Initials		US20120041624	Reference No.	105
Examiner Initials		US20120053754	Reference No.	106
Examiner Initials		US20120074903	Reference No.	107
Examiner Initials		US20120105197	Reference No.	108
Examiner Initials		US20120123670	Reference No.	109
Examiner Initials		US20120136743	Reference No.	110
Examiner Initials		US20120136802	Reference No.	111
Examiner Initials		US20120158244	Reference No.	112
Examiner Initials		US20120179323	Reference No.	113
Examiner Initials		US20120218128	Reference No.	114
Examiner Initials		US20120229056	Reference No.	115
Examiner Initials		US20120229085	Reference No.	116
Examiner Initials		US20120232965	Reference No.	117
Examiner Initials		US20120233077	Reference No.	118
Examiner Initials		US20120262002	Reference No.	119
Examiner Initials		US20120268068	Reference No.	120
Examiner Initials		US20120268076	Reference No.	121
Examiner Initials		US20120268242	Reference No.	122
Examiner Initials		US20120280654	Reference No.	123
Examiner Initials		US20120296512	Reference No.	124

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	13/784,823
				Filing Date	March 5, 2014
				First Named Inventor	Angel Penilla
				Art Unit	
				Examiner Name	
				Attorney Docket Number	VOLTP027

Examiner Initials		US20120303397	Reference No.	125
Examiner Initials		US20120306445	Reference No.	126
Examiner Initials		US20120310713	Reference No.	127
Examiner Initials		US20120316671	Reference No.	128
Examiner Initials		US20130002876	Reference No.	129
Examiner Initials		US20130020139	Reference No.	130
Examiner Initials		US20130021162	Reference No.	131
Examiner Initials		US20130037339	Reference No.	132
Examiner Initials		US20130099892	Reference No.	133
Examiner Initials		US20130103236	Reference No.	134
Examiner Initials		US20130110296	Reference No.	135
Examiner Initials		US20130110632	Reference No.	136
Examiner Initials		US20130110653	Reference No.	137
Examiner Initials		US20130127247	Reference No.	138
Examiner Initials		US20130135093	Reference No.	139
Examiner Initials		US20130144520	Reference No.	140
Examiner Initials		US20130145065	Reference No.	141
Examiner Initials		US20130179057	Reference No.	142
Examiner Initials		US20130204466	Reference No.	143
Examiner Initials		US20130241720	Reference No.	144
Examiner Initials		US20130253746	Reference No.	145
Examiner Initials		US20130280018	Reference No.	146
Examiner Initials		US20130300554	Reference No.	147
Examiner Initials		US20130317693	Reference No.	148
Examiner Initials		US20130317694	Reference No.	149
Examiner Initials		US20130328387	Reference No.	150
Examiner Initials		US20130338820	Reference No.	151
Examiner Initials		US20130342363	Reference No.	152
Examiner Initials		US20140002015	Reference No.	153
Examiner Initials		US20140019280	Reference No.	154
Examiner Initials		US20140021908	Reference No.	155
Examiner Initials		US20140042968	Reference No.	156
Examiner Initials		US20140047107	Reference No.	157
Examiner Initials		US20140066049	Reference No.	158
Examiner Initials		US20140089016	Reference No.	159
Examiner Initials		US20140106726	Reference No.	160
Examiner Initials		US20140118107	Reference No.	161
Examiner Initials		US20140120829	Reference No.	162
Examiner Initials		US20140125355	Reference No.	163
Examiner Initials		US20140142783	Reference No.	164
Examiner Initials		US20140163771	Reference No.	165
Examiner Initials		US20140163774	Reference No.	166

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	13/784,823
				Filing Date	March 5, 2014
				First Named Inventor	Angel Penilla
				Art Unit	
				Examiner Name	
				Attorney Docket Number	VOLTP027

Examiner Initials		US20140164559	Reference No.	167
Examiner Initials		US20140172192	Reference No.	168
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Examiner Initials		US20140179353	Reference No.	171
Examiner Initials		US20140200742	Reference No.	172
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Examiner Initials		US20140207333	Reference No.	174
Examiner Initials		US20140214261	Reference No.	175
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Examiner Initials		US20140218189	Reference No.	177
Examiner Initials		US20140232331	Reference No.	178
Examiner Initials		US20140236414	Reference No.	179
Examiner Initials		US20140236463	Reference No.	180
Examiner Initials		US20140253018	Reference No.	181
Examiner Initials		US20140277936	Reference No.	182
Examiner Initials		US20140278089	Reference No.	183
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Examiner Initials		US3690397	Reference No.	185
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Examiner Initials		US4052655	Reference No.	188
Examiner Initials		US4102273	Reference No.	189
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Examiner Initials		US5121112	Reference No.	204
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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	13/784,823
				Filing Date	March 5, 2014
				First Named Inventor	Angel Penilla
				Art Unit	
				Examiner Name	
				Attorney Docket Number	VOLTP027

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Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	13/784,823
				Filing Date	March 5, 2014
				First Named Inventor	Angel Penilla
				Art Unit	
				Examiner Name	
				Attorney Docket Number	VOLTP027

Examiner Initials		US6225776	Reference No.	251
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Examiner Initials		US6252380	Reference No.	255
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Examiner Initials		US7201384	Reference No.	291
Examiner Initials		US7269416	Reference No.	292

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	13/784,823
				Filing Date	March 5, 2014
				First Named Inventor	Angel Penilla
				Art Unit	
				Examiner Name	
				Attorney Docket Number	VOLTP027

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Examiner Initials		US7869576	Reference No.	310
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Examiner Initials		US7949435	Reference No.	312
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Examiner Initials		US8392065	Reference No.	332
Examiner Initials		US8405347	Reference No.	333
Examiner Initials		US8482255	Reference No.	334

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	13/784,823
				Filing Date	March 5, 2014
				First Named Inventor	Angel Penilla
				Art Unit	
				Examiner Name	
				Attorney Docket Number	VOLTP027

Examiner Initials		US8483775	Reference No.	335
Examiner Initials		US8483907	Reference No.	336
Examiner Initials		US8490005	Reference No.	337
Examiner Initials		US8508188	Reference No.	338
Examiner Initials		US8521599	Reference No.	339
Examiner Initials		US8527135	Reference No.	340
Examiner Initials		US8527146	Reference No.	341
Examiner Initials		US8552686	Reference No.	342
Examiner Initials		US8589019	Reference No.	343
Examiner Initials		US8624719	Reference No.	344
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Examiner Initials		US8751065	Reference No.	355
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Examiner Initials		US8799037	Reference No.	358
Examiner Initials		US8816845	Reference No.	359
Examiner Initials		US8818622	Reference No.	360
Examiner Initials		US8818725	Reference No.	361
Examiner Initials		US8819414	Reference No.	362
Examiner Initials		US8825222	Reference No.	363
Examiner Initials		US8836281	Reference No.	364

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Electronic Acknowledgement Receipt

EFS ID:	20892401
Application Number:	13784823
International Application Number:	
Confirmation Number:	8299
Title of Invention:	Methods and Systems for Defining Custom Vehicle User Interface Configurations and Cloud Services for Managing Applications for the User Interface and Learned Setting Functions
First Named Inventor/Applicant Name:	Angel A. Penilla
Customer Number:	25920
Filer:	Albert S. Penilla
Filer Authorized By:	
Attorney Docket Number:	VOLTP027
Receipt Date:	08-DEC-2014
Filing Date:	05-MAR-2013
Time Stamp:	14:23:16
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	IDS_DEC14_Efiled.pdf	20549 74019a5d16d30ae7bf9437bb82b18818bb7fd06f	no	1

Warnings:

Information:

2	Information Disclosure Statement (IDS) Form (SB08)	IDS1449_DEC2014.pdf	100590 <small>fc5c969dabb004acfdc22e3ef0ee8fcec99c08db</small>	no	9
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
Total Files Size (in bytes):				121139	
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> 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.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> 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.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> 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.</p>					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Angel A. Penilla

Application No: 13/784,823

Filed: March 5, 2013

For: Methods and Systems for Defining
Custom Vehicle User Interface Configurations
and Cloud Services for Managing Applications
for the User Interface and Learned Setting
Functions

Group Art Unit:

Examiner: Unknown

Atty. Docket No: VOLTP027

Date: Dec. 8, 2014

CERTIFICATE OF E-FILING

I hereby certify that this correspondence is being transmitted to
the United States Patent and Trademark Office via electronic
filing with EFS-Web on **Dec. 8, 2014**.

/Albert Penilla/

Albert Penilla

INFORMATION DISCLOSURE STATEMENT
UNDER 37 CFR §§1.56 AND 1.97(c)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The references listed in the attached PTO Form 1449, may be material to examination of the above-identified patent application. Applicant submits these references in compliance with his duty of disclosure pursuant to 37 CFR §§1.56 and 1.97. The Examiner is requested to make these references of official record in this application.

This Information Disclosure Statement (IDS) is not to be construed as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that these references indeed constitute prior art.

This Information Disclosure Statement is being filed within three (3) months of the filing date of the above-referenced application. Accordingly, it is believed that no fees are due in connection with the filing of this Information Disclosure Statement. However, if it is determined that any fees are due, the Commissioner is hereby authorized to charge such fees to Deposit Account 50-0805 (Order No. VOLTP027)

Respectfully submitted,

MARTINE PENILLA GROUP, LLP

/Albert Penilla/

Albert S. Penilla, Esq.

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Customer Number 25920

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	14/063,638
				Filing Date	March 5, 2013
				First Named Inventor	Angel Penilla
				Art Unit	2859
				Examiner Name	Yalkew Fantu
				Attorney Docket Number	VOLTP027

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>	Complete if Known	
	Application Number	14/063,638
	Filing Date	March 5, 2013
	First Named Inventor	Angel Penilla
	Art Unit	2859
	Examiner Name	Yalkew Fantu
	Attorney Docket Number	VOLTP027

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	9/16/2014	US8836281	Ronald Ambrosio et al.	357

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Electronic Acknowledgement Receipt

EFS ID:	23160137
Application Number:	13784823
International Application Number:	
Confirmation Number:	8299
Title of Invention:	Methods and Systems for Defining Custom Vehicle User Interface Configurations and Cloud Services for Managing Applications for the User Interface and Learned Setting Functions
First Named Inventor/Applicant Name:	Angel A. Penilla
Customer Number:	25920
Filer:	Albert S. Penilla
Filer Authorized By:	
Attorney Docket Number:	VOLTP027
Receipt Date:	10-AUG-2015
Filing Date:	05-MAR-2013
Time Stamp:	13:04:06
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	IDS_Aug2015_2_Efiled.pdf	20717 ea3d8b4e308b9e5b9a742a6cdef4d19a91682bc4	no	1

Warnings:

Information:

2	Information Disclosure Statement (IDS) Form (SB08)	IDS1449_Aug2015.pdf	130209 <small>15f97554dd3f46471e8afc7ba9209ed927713e4d</small>	no	10
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
Total Files Size (in bytes):				150926	
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> 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.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> 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.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> 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.</p>					

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Angel A. Penilla

Application No: 13/784,823

Filed: March 5, 2013

For: Methods and Systems for Defining
Custom Vehicle User Interface Configurations
and Cloud Services for Managing Applications
for the User Interface and Learned Setting
Functions

Group Art Unit: 2859

Examiner: Yalkew Fantu

Atty. Docket No: VOLTP027

Date: Aug. 10, 2015

Conf. No. 8299

CERTIFICATE OF E-FILING

I hereby certify that this correspondence is being transmitted to
the United States Patent and Trademark Office via electronic
filing with EFS-Web on **Aug. 10, 2015.**

/Albert Penilla/

Albert Penilla

INFORMATION DISCLOSURE STATEMENT

UNDER 37 CFR §§1.56 AND 1.97(c)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The references listed in the attached PTO Form 1449, may be material to examination of the above-identified patent application. Applicant submits these references in compliance with his duty of disclosure pursuant to 37 CFR §§1.56 and 1.97. The Examiner is requested to make these references of official record in this application.

This Information Disclosure Statement (IDS) is not to be construed as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that these references indeed constitute prior art.

This IDS replaces the IDS filed on December 8, 2014. The replacement was made to supply full data regarding dates and applicant information on the references listing.

This Information Disclosure Statement is being filed before the first Office action on the merits. Accordingly, it is believed that no fees are due in connection with the filing of this Information Disclosure Statement. However, if it is determined that any fees are due, the Commissioner is hereby authorized to charge such fees to Deposit Account 50-0805 (Order No. VOLTP027)

Respectfully submitted,

MARTINE PENILLA GROUP, LLP

/Albert Penilla/

Albert S. Penilla, Esq.

Reg. No. 39,487

710 Lakeway Drive, Suite 200
Sunnyvale, CA 94085
Telephone: (408) 749-6900 **Customer Number 25920**



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

25920 7590 01/28/2016
MARTINE PENILLA GROUP, LLP
710 LAKEWAY DRIVE
SUITE 200
SUNNYVALE, CA 94085

EXAMINER

FANTU, YALKEW

ART UNIT

PAPER NUMBER

2859

DATE MAILED: 01/28/2016

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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13/784,823

03/05/2013

Angel A. Penilla

VOLTP027

8299

TITLE OF INVENTION: METHODS AND SYSTEMS FOR DEFINING CUSTOM VEHICLE USER INTERFACE CONFIGURATIONS AND CLOUD SERVICES FOR MANAGING APPLICATIONS FOR THE USER INTERFACE AND LEARNED SETTING FUNCTIONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$480	\$0	\$0	\$480	04/28/2016

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax **(571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

25920 7590 01/28/2016
MARTINE PENILLA GROUP, LLP
710 LAKEWAY DRIVE
SUITE 200
SUNNYVALE, CA 94085

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/784,823	03/05/2013	Angel A. Penilla	VOLTP027	8299

TITLE OF INVENTION: METHODS AND SYSTEMS FOR DEFINING CUSTOM VEHICLE USER INTERFACE CONFIGURATIONS AND CLOUD SERVICES FOR MANAGING APPLICATIONS FOR THE USER INTERFACE AND LEARNED SETTING FUNCTIONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$480	\$0	\$0	\$480	04/28/2016

EXAMINER	ART UNIT	CLASS-SUBCLASS
FANTU, YALKEW	2859	320-109000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



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
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/784,823	03/05/2013	Angel A. Penilla	VOLTP027	8299

25920 7590 01/28/2016
MARTINE PENILLA GROUP, LLP
710 LAKEWAY DRIVE
SUITE 200
SUNNYVALE, CA 94085

EXAMINER

FANTU, YALKEW

ART UNIT	PAPER NUMBER
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2859

DATE MAILED: 01/28/2016

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. 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 12 minutes 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, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. 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.

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).
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 inspection 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.

Notice of Allowability	Application No. 13/784,823	Applicant(s) PENILLA ET AL.	
	Examiner YALKEW FANTU	Art Unit 2859	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 03/05/2013.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 1-27. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some *c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. ☒ Notice of References Cited (PTO-892) | 5. ☒ Examiner's Amendment/Comment |
| 2. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>8/10/15 and 12/8/14</u> | 6. ☒ Examiner's Statement of Reasons for Allowance |
| 3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material | 7. ☐ Other _____. |
| 4. ☒ Interview Summary (PTO-413),
Paper No./Mail Date <u>20160112</u> . | |

/YALKEW FANTU/
Primary Examiner, Art Unit 2859

DETAILED ACTION

The present application is being examined under the pre-AIA first to invent provisions. A terminal disclaimer was previously filed with application 14/246,145 in order to overcome the non-statutory double patenting issue raised with this instant application earlier, which is currently allowed as US 9,229,623.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee. Authorization for this examiner's amendment was given in a telephone interview with Albert S. Penilla on 01/12/2016.

The application has been amended as follows:

Paragraph 0045 of the specification has a typographical error, on line one, recites ... **Figures 13A-13A** ... replace with --- **Figures 13A-13D** ---

Please amend claim 1, claim 8, and **cancel the second or repeated claim 15,**
and add claim 27 as follows:

Claim 1: A method, comprising: providing access to cloud services over the Internet for customizing a user interface of a vehicle, **the cloud services maintaining a database of user accounts**; providing selection options to identify a vehicle type among a plurality of vehicle types, each vehicle type being associated with a system

component native to the vehicle type, the system component providing native interfaces for the vehicle type;

identifying a plurality of applications available for the vehicle type, each of the applications provided with predefined code for communicating with at least one control interface of the system component;

identifying an application from the plurality of applications, the application providing an app interface to be added to the user interface of the vehicle;

generating a custom configuration of the user interface for the vehicle type that includes native interfaces provided by at least one system component native to the vehicle type and the app interface for the application, the custom configuration is saved to a user account in the database interfaced with cloud services over the Internet; and

transferring, wirelessly from the cloud services, at least part of the custom configuration to the vehicle to cause at least a portion of an image for the user interface to be rendered on a vehicle display, the method being executed by a processor.

Claim 27: The method of claim 14, wherein the programming of one or more components of the custom configuration includes automatically setting input based on times of day, or days of week, or dates of month, or times of year, or combinations thereof.

Claim 8, on line 2-3, replace “... **maintaining a database of user, each user account having one or more custom configurations of user interfaces...**” with - - -

each user account having one or more custom configurations of user interfaces which are maintained in the database; and - - -

Claim 15, on line 5, replace “... saved in a database ...” with - - - saved in the database - - -

REASONS FOR ALLOWANCE

The following is the examiner's statement of reasons for allowance.

The two references, Nor and Shiim, are the closest prior art of record.

Nor et al. (US 5,548,200) reference discloses a method and apparatus of an electric vehicle that is connected to a charging station in order to charge the vehicle under the control of a charging controller module. The controller module uses parameters of charging current and charging voltage set by the on board battery charging controller, or the charging controller in the charging station. Shiim et al. (US 2010/0037057) reference discloses a system and method for using network devices in a vehicle in a tightly integrated manner. The vehicle has an OBE, a mobile device client, and vehicle components, and the mobile device has a mobile device proxy and applications, such that the mobile device client and the mobile device proxy communicate, enabling dynamic transfer of the applications to the OBE and execution of the applications on the mobile device and the OBE using the plurality of vehicle components at runtime.

But both references and any prior art of record, do not disclose or suggest the following Claims 1 and 26 limitations: “... method ... providing access to cloud services over the Internet for customizing a user interface of a vehicle; providing selection

Art Unit: 2859

options to identify a vehicle type among a plurality of vehicle types, each vehicle type being associated with a system component native to the vehicle type.... **maintaining a database of user accounts, each user account having one or more custom configurations of user interfaces; processing a request to use a second custom configuration on the vehicle, the request being received from the vehicle upon entering credentials to access a second user account; transferring the second custom configuration to the vehicle for use while the credentials of the second user account are active on the vehicle, wherein a verified request to use the second custom configuration terminates use of the custom configuration in favor of the second custom configuration**” in combination with the remaining claims elements as set forth in Claims 1, 26 and depending claims 2-7, and 9-27. *Therefore* claims 1-7, 9-27 are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YALKEW FANTU whose telephone number is (571)272-8928. The examiner can normally be reached on M-F: 7 - 4.

Art Unit: 2859

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DREW A. DUNN can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/YALKEW FANTU/

Primary Examiner, Art Unit 2859

Notice of References Cited	Application/Control No. 13/784,823		Applicant(s)/Patent Under Reexamination PENILLA ET AL.	
	Examiner YALKEW FANTU		Art Unit 2859	Page 1 of 1

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Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 13784823	Applicant(s)/Patent Under Reexamination PENILLA ET AL.
	Examiner YALKEW FANTU	Art Unit 2859

CPC- SEARCHED		
Symbol	Date	Examiner
Y02T	01/04/2016	YF

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner
Y02T90/14	01/04/2016	YF

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
320	109,107,104	01/04/2016	YF
180	65.1, 65.21	01/04/2016	YF
307	10.1	01/04/2016	YF
701	22	01/04/2016	YF

SEARCH NOTES		
Search Notes	Date	Examiner
320/109,116,339;180/65.1,65.21;307/10.1,149;701/22 with text search was conducted	01/04/2016	YF
Inventor's search in PALM and eDAN was conducted	01/04/2016	YF
foreign and IDS search was conducted	01/04/2016	YF
interference search was conducted	01/04/2016	YF
EAST Search (See Printout)	01/04/2016	YF
Related applications' search was conducted	01/04/2016	YF
IDS and an Interference search was conducted	01/04/2016	YF

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
320/Y02T	109/ 90/14	03/19/2015	YF

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Issue Classification 	Application/Control No. 13784823	Applicant(s)/Patent Under Reexamination PENILLA ET AL.
	Examiner YALKEW FANTU	Art Unit 2859

☐ Claims renumbered in the same order as presented by applicant															
☐ CPA															
☐ T.D.															
☐ R.1.47															
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NONE	Total Claims Allowed:	
(Assistant Examiner)	27	
(Date)		
/YALKEW FANTU/ Primary Examiner.Art Unit 2859	01/10/2016	O.G. Print Claim(s)
(Primary Examiner)	(Date)	O.G. Print Figure
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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	14/063,638
				Filing Date	March 5, 2013
				First Named Inventor	Angel Penilla
				Art Unit	2859
				Examiner Name	Yalkew Fantu
				Attorney Docket Number	VOLTP027

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				Examiner Name	Yalkew Fantu
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	4/7/1998	US5736833	Richard D. Farris	235
	6/2/1998	US5760569	Robert B. Chase, Jr.	236
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	8/4/1998	US5790976	Wolf Boll et al.	238
	4/6/1999	US5892598	Shiro Asakawa et al.	239
	6/29/1999	US5916285	Cornell W. Alofs et al.	240
	10/26/1999	US5974136	Toshio Murai	241
	12/7/1999	US5998963	Einar Aarseth	242
	1/11/2000	US6014597	Uwe Kochanneck	243
	4/11/2000	US6049745	Barry D. Douglas et al.	244
	5/23/2000	US6067008	Harry F. Smith	245
	6/27/2000	US6081205	Douglas J. Williams	246
	7/4/2000	US6085131	Dong-Ho Kim	247
	11/21/2000	US6151539	Ralf Bergholz et al.	248
	1/16/2001	US6175789	Ricahrd D. Beckert et al.	249
	5/1/2001	US6225776	Wellmon Chai	250
	5/22/2001	US6234932	Shigetaka Kuroda et al.	251
	5/22/2001	US6236333	Joseph David King	252
	6/26/2001	US6252380	Steven E. Koenck	253
	10/9/2001	US6301531	Michael James Pierro	254
	10/23/2001	US6307349	Steven E. Koenck, et al.	255
	12/11/2001	US6330497	Michael L. Obradovich, et al	256
	12/11/2001	US6330499	Paul Bao-Luo Chou, et al.	257
	4/9/2002	US6370475	David S. Breed et al.	258
	4/16/2002	US6373380	Karl Robertson, et al.	259
	7/9/2002	US6416209	Glenn W Abbott	260
	8/13/2002	US6434465	Manfred Schmitt, et al.	261

Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	14/063,638
				Filing Date	March 5, 2013
				First Named Inventor	Angel Penilla
				Art Unit	2859
				Examiner Name	Yalkew Fantu
				Attorney Docket Number	VOLTP027

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	10/15/2002	US6466658	Charles C. Schelberg, Jr., et al.	263
	11/12/2002	US6480767	Musashi Yamaguchi	264
	11/26/2002	US6487477	Joanne T. Woestman et al.	265
	12/24/2002	US6498454	Watcharin Pinlam	266
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	7/1/2003	US6586866	Tomoyuki Ikedo	268
	9/2/2003	US6614204	Nicholas J. Pellegrino, et al.	269
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	5/25/2004	US6741036	Tomoyuki Ikedo	272
	7/20/2004	US6765495	Gilmore J. Dunning, et al.	273
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	9/21/2004	US6794849	Ichiro Mori, et al.	275
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	6/22/2010	US7740092	Donald Arthur Bender	298
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	8/17/2010	US7778746	Paul W. McLeod	300
	9/14/2010	US7796052	Fred Katz	301
	12/14/2010	US7850351	Todd W. Pastrick, et al.	302

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	14/063,638
				Filing Date	March 5, 2013
				First Named Inventor	Angel Penilla
				Art Unit	2859
				Examiner Name	Yalkew Fantu
				Attorney Docket Number	VOLTP027

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	2/8/2011	US7885893	Daniel Alexander	304
	5/24/2011	US7949435	Seth B. Pollack	305
	6/7/2011	US7956570	Richard Lowenthal	306
	7/12/2011	US7979198	John Y. Kim, et al.	307
	7/26/2011	US7986126	Jonathan P. Bucci	308
	8/2/2011	US7991665	James Lee Hafner	309
	8/30/2011	US8006793	Yoav Heichal, et al.	310
	9/27/2011	US8027843	Willam Kress Bodin, et al.	311
	10/11/2011	US8036788	David S. Breed	312
	11/8/2011	US8054048	George R. Woody	313
	12/6/2011	US8072318	Niall R. Lynam	314
	1/24/2012	US8103391	Erica Haefner Ferro, et al.	315
	9/4/2012	US8256553	Roberto De Paschoal	316
	9/11/2012	US8262268	Todd W. Pastrick, et al.	317
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	12/25/2012	US8336664	Erik Wallace, et al.	322
	1/8/2013	US8350526	Christopher K. Dyer, et al.	323
			Leonard J. Maniscalco, et al.	
	2/5/2013	US8366371		324
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	3/26/2013	US8405347	Allan Roy Gale	326
	7/9/2013	US8482255	Dale Scott Crombez	327
	7/9/2013	US8483775	Markus Buck, et al.	328
	7/9/2013	US8483907	Christopher Tarte	329
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	8/13/2013	US8508188	Joseph G. Murtha, et al.	331
	8/27/2013	US8521599	Cecil Rivers, Jr., et al.	332
	9/3/2013	US8527135	Larkin H. Lowrey, et al.	333
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	10/8/2013	US8552686	Chang-Gi Jung	335
	11/19/2013	US8589019	Charles L. Wallace, et al.	336
	1/7/2014	US8624719	Lee Robert Klose	337
	1/14/2014	US8630741	Yoky Matsuoka, et al.	338
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	4/1/2014	US8686864	Marwan Hannon	342
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				Filing Date	March 5, 2013
				First Named Inventor	Angel Penilla
				Art Unit	2859
				Examiner Name	Yalkew Fantu
				Attorney Docket Number	VOLTP027

	4/22/2014	US8706394	Paul Trepagnier, et al.	344
	4/29/2014	US8713121	David Bain	345
	5/6/2014	US8717170	Bradley Juhasz	346
	5/13/2014	US8725551	Ronald Ambrosio, et al.	347
	6/10/2014	US8751065	Kenji Kato	348
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/Yalkew Fantu/

01/12/2016

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EAST Search History

EAST Search History (Prior Art)

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S154	3025	320/109.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
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S157	189	S156 and ((AC power)(vehicle)(plurality or multiple))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S158	119	S157 and (vehicle)(battery)(voltage detect\$3)(control)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
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S161	309	S160 and ((AC power)(vehicle)(plurality or multiple))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S162	129	S161 and (vehicle)(battery)(voltage detect\$3)(control)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S163	2109	307/149.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S164	47	S163 and ((AC power)(vehicle)(plurality or multiple))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S165	26	S164 and (vehicle)(battery)(voltage detect\$3)(control)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S166	4	US-20030059654-\$.DID. OR JP- 2006158124-\$.DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S167	19	US-5099186-\$.DID. OR US-6104160- \$.DID. OR JP-6292304-\$.DID. OR JP- 2004173388-\$.DID. OR JP-20028673- \$.DID. OR JP-4295202-\$.DID. OR JP- 20018380-\$.DID. OR JP-2002247769- \$.DID. OR JP-2005210843-\$.DID. OR JP- 2003264906-\$.DID. OR JP-10117444- \$.DID. OR JP-2000209707-\$.DID. OR JP- 11178234-\$.DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S168	363	((SHINJI) near2 (ICHIKAWA)).INV.	US-PGPUB;	AND	ON	2016/01/12

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S169	363	((SHINJI) near2 (ICHIKAWA)).INV.	US-PGPUB; USPAT; USOCR	AND	ON	2016/01/12 01:11
S170	194	((TETSUHIRO) near2 (ISHIKAWA)).INV.	US-PGPUB; USPAT; USOCR	AND	ON	2016/01/12 01:11
S171	9065	701/22.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S172	1621	S171 and ((AC power)(vehicle)(plurality or multiple))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S173	949	S172 and (vehicle)(battery)(voltage detect\$3)(control)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S174	627	S173 and (AC power)(vehicle)(supply line)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S175	2	US-3020125-\$.DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S176	6	("20100060231" 7982439 20100315046).pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S177	6319	320/116,339,107.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S178	2208	S177 and (charg\$3)(vehicle or automobile or car)	US-PGPUB; USPAT; USOCR;	AND	ON	2016/01/12 01:11

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S179	470	S178 and (communication module)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S180	35	S179 and (charg\$3 near switch)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S181	35	S180 and (charg\$3 control)(module)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S182	24	S181 and (charg\$3 mode)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S183	9	S182 and (charg\$3 near control)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S184	77	"320"/\$.ccls. and (charg\$3) (communicat\$3 module)(charg\$3 near mode)(set\$4 mode)(charg\$3 near switch)(battery)(vehicle or car)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S185	31	S184 and (charg\$3 near control)(power information)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S186	9	S184 and (charg\$3 near control)(power near information)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S187	66	((("KI SEOK") near2 (KIM)).INV.	US-PGPUB;	AND	ON	2016/01/12

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S188	26736	y02t90/14.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S189	1128	S188 and ((volt bar) or (charge bar) or (charge slot))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S190	34	S189 and ((volt near bar) or (charge near bar) or (charge near slot))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S191	5138	b60l11/1824.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S192	311	S191 and ((volt bar) or (charge bar) or (charge slot))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S193	311	S192 and ((volt bar) or (charge bar) or (charge slot))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S194	13	S193 and ((volt near bar) or (charge near bar) or (charge near slot))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
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S198	24	((Angel) near2 (Penilla)).INV.	US-PGPUB; USPAT; USOCR	AND	ON	2016/01/12 01:11
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S200	443	701/29.3.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S201	78	S200 and (server)(account)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S202	72	S201 and (network)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S203	61	S202 and (vehicle or car)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S204	17	S203 and (charge rate)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11

S205	24	((Angel) near2 (Penilla)).INV.	US-PGPUB; USPAT; USOCR	AND	ON	2016/01/12 01:11
S206	3025	320/109.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S207	2992	320/104	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S208	1823	320/116,339.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S209	189	S208 and ((AC power)(vehicle)(plurality or multiple))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S210	119	S209 and (vehicle)(battery)(voltage detect\$3)(control)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S211	7	S210 an (second control)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S212	3627	180/65.31,69.6,54.1.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S213	309	S212 and ((AC power)(vehicle)(plurality or multiple))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S214	129	S213 and (vehicle)(battery)(voltage detect\$3)(control)	US-PGPUB; USPAT;	AND	ON	2016/01/12 01:11

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S215	2109	307/149.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S216	24	((Angel) near2 (Penilla)).INV.	US-PGPUB; USPAT; USOCR	AND	ON	2016/01/12 01:11
S217	4	US-1256622-\$.DID. OR US-1331018- \$.DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11
S218	314	US-1387848-\$.DID. OR US-4087895- \$.DID. OR US-4216839-\$.DID. OR US- 5187423-\$.DID. OR US-5339250-\$.DID. OR US-5349535-\$.DID. OR US- 5544784-\$.DID. OR US-5596261-\$.DID. OR US-5627752-\$.DID. OR US- 5631536-\$.DID. OR US-5642270-\$.DID. OR US-5815824-\$.DID. OR US- 5898282-\$.DID. OR US-5998963-\$.DID. OR US-6016882-\$.DID. OR US- 6177867-\$.DID. OR US-6177879-\$.DID. OR US-6403251-\$.DID. OR US- 6498457-\$.DID. OR US-6822560-\$.DID. OR US-6899268-\$.DID. OR US- 6952795-\$.DID. OR US-7010682-\$.DID. OR US-7131005-\$.DID. OR US- 7392068-\$.DID. OR US-7415332-\$.DID. OR US-7495543-\$.DID. OR US- 7567166-\$.DID. OR US-7617893-\$.DID. OR US-7761307-\$.DID. OR US- 7778746-\$.DID. OR US-7868591-\$.DID. OR US-7908020-\$.DID. OR US- 7948207-\$.DID. OR US-7979147-\$.DID. OR US-7993155-\$.DID. OR US- 8006793-\$.DID. OR US-8006973-\$.DID. OR US-8013571-\$.DID. OR US- 8035341-\$.DID. OR US-8063762-\$.DID. OR US-8068952-\$.DID. OR US- 8106631-\$.DID. OR US-8118132-\$.DID. OR US-8164300-\$.DID. OR US- 8229625-\$.DID. OR US-8265816-\$.DID. OR US-8301365-\$.DID. OR US- 8326259-\$.DID. OR US-8412401-\$.DID. OR US-8437908-\$.DID. OR US- 20030141840-\$.DID. OR US- 20030163434-\$.DID. OR US- 20030209375-\$.DID. OR US- 20040236615-\$.DID. OR US- 20040246119-\$.DID. OR US- 20060047380-\$.DID. OR US- 20060208850-\$.DID. OR US-	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:11

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S222	101	S220 and (user interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:32
S223	19	S188 and (cloud near service)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:32
S224	118	S188 and (cloud service)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 01:53
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		OR US-7869576-\$.DID. OR US-7885893-\$.DID. OR US-7949435-\$.DID. OR US-7956570-\$.DID. OR US-7979198-\$.DID. OR US-7986126-\$.DID. OR US-7991665-\$.DID. OR US-8006793-\$.DID. OR US-8027843-\$.DID. OR US-8036788-\$.DID. OR US-8054048-\$.DID. OR US-8072318-\$.DID. OR US-8103391-\$.DID. OR US-8256553-\$.DID. OR US-8262268-\$.DID. OR US-8265816-\$.DID. OR US-8266075-\$.DID. OR US-8294420-\$.DID. OR US-8333492-\$.DID. OR US-8336664-\$.DID. OR US-8350526-\$.DID. OR US-8366371-\$.DID. OR US-8392065-\$.DID. OR US-8405347-\$.DID. OR US-8482255-\$.DID. OR US-8483775-\$.DID. OR US-8483907-\$.DID. OR US-8490005-\$.DID. OR US-8508188-\$.DID. OR US-8521599-\$.DID. OR US-8527135-\$.DID. OR US-8527146-\$.DID. OR US-8552686-\$.DID. OR US-8589019-\$.DID. OR US-8624719-\$.DID. OR US-8630741-\$.DID. OR US-8635091-\$.DID. OR US-8643329-\$.DID. OR US-8660734-\$.DID. OR US-8686864-\$.DID. OR US-8694328-\$.DID. OR US-8706394-\$.DID. OR US-8713121-\$.DID. OR US-8717170-\$.DID. OR US-8725551-\$.DID. OR US-8751065-\$.DID. OR US-8751271-\$.DID. OR US-8760432-\$.DID. OR US-8799037-\$.DID. OR US-8816845-\$.DID. OR US-8818622-\$.DID. OR US-8818725-\$.DID. OR US-8819414-\$.DID. OR US-8825222-\$.DID. OR US-8836281-\$.DID.				
S227	250	S225 and (communicat\$3)(interface vehicle)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 02:06
S228	197	S227 and (wireless or inductive) and (communicat\$3)(interface vehicle)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 02:06
S229	69	S228 and (image)(vehicle display) (processor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2016/01/12 02:08

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
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L1	0	((access near cloud)(select\$3)(vehicle near type)(plurality or multiple)(code near communicat\$3)(control interface)(plurality or multiple)(application)(generat\$3)(user interface)(vehicle)(transfer\$4 wireless\$3)).clm.	US-PGPUB; USPAT	AND	ON	2016/01/12 09:20
L2	0	((access near cloud)(select\$3)(vehicle near type)(plurality or multiple)(code near communicat\$3)(control interface)(plurality or multiple)(application)(generat\$3)(user interface)(vehicle)(transfer\$4 wireless\$3)).clm.	US-PGPUB; USPAT	AND	ON	2016/01/12 09:20
L6	2	((access cloud)(vehicle type)(plurality or multiple)(communicat\$3)(control)(generat\$3)(vehicle)(transfer\$4 wireless\$3)).clm.	US-PGPUB; USPAT	AND	ON	2016/01/12 10:17
L12	12	((vehicle near type)(plurality or multiple)(communicat\$3)(control interface)(generat\$3)(vehicle)(wireless\$3)).clm.	US-PGPUB; USPAT	AND	ON	2016/01/12 10:19
L14	41	((vehicle near type)(plurality or multiple)(communicat\$3)(control interface)(generat\$3)(vehicle)).clm.	US-PGPUB; USPAT	AND	ON	2016/01/12 10:20
L19	43	((vehicle near type)(plurality or multiple)(communicat\$3 or connect)(control interface)(generat\$3 or produce)(vehicle or car or automobile)).clm.	US-PGPUB; USPAT	AND	ON	2016/01/12 10:22
L20	68	((vehicle near type)(plurality or multiple)(communicat\$3 or interface)(control interface)(generat\$3 or produce)(vehicle or car or automobile)).clm.	US-PGPUB; USPAT	AND	ON	2016/01/12 10:23
L24	84	((vehicle type)(plurality)(communicat\$3)(control)(generat\$3)(vehicle)(transfer\$4 wireless\$3)).clm.	US-PGPUB; USPAT	AND	ON	2016/01/12 10:26
L25	102	((vehicle type)(plurality or multiple)(communicat\$3)(control)(generat\$3)(vehicle)(transfer\$4 wireless\$4)).clm.	US-PGPUB; USPAT	AND	ON	2016/01/12 10:27
L26	156	((vehicle near type)(plurality or multiple)(communicat\$3)(control)(generat\$3)(vehicle)).clm.	US-PGPUB; USPAT	AND	ON	2016/01/12 10:28
L27	189	((vehicle type)(plurality or multiple)(communicat\$3)(control interface)(generat\$3)(vehicle)(wireless\$3)).clm.	US-PGPUB; USPAT	AND	ON	2016/01/12 10:30
L28	202	((vehicle type)(plurality or multiple)(communicat\$3)(control interface)(generat\$3 or produce)(vehicle or car or automobile)(wireless\$3 or inductive)).clm.	US-PGPUB; USPAT	AND	ON	2016/01/12 10:31

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	13/784,823
				Filing Date	March 5, 2014
				First Named Inventor	Angel Penilla
				Art Unit	
				Examiner Name	
				Attorney Docket Number	VOLTP027

U.S. Patent Documents

Examiner Initials	Initials	Reference	REF. NO.	
Examiner Initials		US20020064258	Reference No.	1
Examiner Initials		US20020085043	Reference No.	2
Examiner Initials		US20020133273	Reference No.	3
Examiner Initials		US20030137277	Reference No.	4
Examiner Initials		US20030153278	Reference No.	5
Examiner Initials		US20030205619	Reference No.	6
Examiner Initials		US20030234325	Reference No.	7
Examiner Initials		US20040046506	Reference No.	8
Examiner Initials		US20040064235	Reference No.	9
Examiner Initials		US20040092253	Reference No.	10
Examiner Initials		US20040093155	Reference No.	11
Examiner Initials		US20040265671	Reference No.	12
Examiner Initials		US20050021190	Reference No.	13
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Examiner Initials		US20060125620	Reference No.	16
Examiner Initials		US20060182241	Reference No.	17
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Examiner Initials		US20090021213	Reference No.	39
Examiner Initials		US20090021385	Reference No.	40

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known	
		Application Number	13/784,823
		Filing Date	March 5, 2014
		First Named Inventor	Angel Penilla
		Art Unit	
		Examiner Name	
		Attorney Docket Number	VOLTP027

Examiner Initials		US20090030712	Reference No.	41
Examiner Initials		US20090043519	Reference No.	42
Examiner Initials		US20090058355	Reference No.	43
Examiner Initials		US20090066287	Reference No.	44
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Examiner Initials		US20090312903	Reference No.	57
Examiner Initials		US20090313032	Reference No.	58
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				Application Number	13/784,823
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				First Named Inventor	Angel Penilla
				Art Unit	
				Examiner Name	
				Attorney Docket Number	VOLTP027

Examiner Initials		US20100222939	Reference No.	83
Examiner Initials		US20100268426	Reference No.	84
Examiner Initials		US20100304349	Reference No.	85
Examiner Initials		US20110032110	Reference No.	86
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Examiner Initials		US20120296512	Reference No.	124

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		Application Number	13/784,823
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		First Named Inventor	Angel Penilla
		Art Unit	
		Examiner Name	
		Attorney Docket Number	VOLTP027

Examiner Initials		US20120303397	Reference No.	125
Examiner Initials		US20120306445	Reference No.	126
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Examiner Initials		US20140163774	Reference No.	166

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				First Named Inventor	Angel Penilla
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				Examiner Name	
				Attorney Docket Number	VOLTP027

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Examiner Initials		US5202617	Reference No.	207
Examiner Initials		US5297664	Reference No.	208

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		First Named Inventor	Angel Penilla
		Art Unit	
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		Attorney Docket Number	VOLTP027

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		First Named Inventor	Angel Penilla
		Art Unit	
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		Attorney Docket Number	VOLTP027

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Examiner Initials		US6456041	Reference No.	267
Examiner Initials		US6456041	Reference No.	268
Examiner Initials		US6466058	Reference No.	269
Examiner Initials		US6480767	Reference No.	270
Examiner Initials		US6487477	Reference No.	271
Examiner Initials		US6498454	Reference No.	272
Examiner Initials		US6511192	Reference No.	273
Examiner Initials		US6586866	Reference No.	274
Examiner Initials		US6614204	Reference No.	275
Examiner Initials		US6629024	Reference No.	276
Examiner Initials		US6727809	Reference No.	277
Examiner Initials		US6741036	Reference No.	278
Examiner Initials		US6765495	Reference No.	279
Examiner Initials		US6766949	Reference No.	280
Examiner Initials		US6789733	Reference No.	281
Examiner Initials		US6794849	Reference No.	282
Examiner Initials		US6850898	Reference No.	283
Examiner Initials		US6915869	Reference No.	284
Examiner Initials		US6922629	Reference No.	285
Examiner Initials		US6937140	Reference No.	286
Examiner Initials		US6940254	Reference No.	287
Examiner Initials		US7013205	Reference No.	288
Examiner Initials		US7039389	Reference No.	289
Examiner Initials		US7084781	Reference No.	290
Examiner Initials		US7201384	Reference No.	291
Examiner Initials		US7269416	Reference No.	292

Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	13/784,823
				Filing Date	March 5, 2014
				First Named Inventor	Angel Penilla
				Art Unit	
				Examiner Name	
				Attorney Docket Number	VOLTP027

Examiner Initials		US7289611	Reference No.	293
Examiner Initials		US7376497	Reference No.	294
Examiner Initials		US7379541	Reference No.	295
Examiner Initials		US7402978	Reference No.	296
Examiner Initials		US7532965	Reference No.	297
Examiner Initials		US7565396	Reference No.	298
Examiner Initials		US7630802	Reference No.	299
Examiner Initials		US7650210	Reference No.	300
Examiner Initials		US7674536	Reference No.	301
Examiner Initials		US7683771	Reference No.	302
Examiner Initials		US7693609	Reference No.	303
Examiner Initials		US7698078	Reference No.	304
Examiner Initials		US7740092	Reference No.	305
Examiner Initials		US7751945	Reference No.	306
Examiner Initials		US7778746	Reference No.	307
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Examiner Initials		US7850381	Reference No.	309
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Examiner Initials		US7885593	Reference No.	311
Examiner Initials		US7949433	Reference No.	312
Examiner Initials		US7956570	Reference No.	313
Examiner Initials		US7979198	Reference No.	314
Examiner Initials		US7986126	Reference No.	315
Examiner Initials		US7991665	Reference No.	316
Examiner Initials		US8006793	Reference No.	317
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Examiner Initials		US8103391	Reference No.	322
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Examiner Initials		US8333492	Reference No.	328
Examiner Initials		US8336664	Reference No.	329
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Examiner Initials		US8366371	Reference No.	331
Examiner Initials		US8392065	Reference No.	332
Examiner Initials		US8405347	Reference No.	333
Examiner Initials		US8482255	Reference No.	334

Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	13/784,823
				Filing Date	March 5, 2014
				First Named Inventor	Angel Penilla
				Art Unit	
				Examiner Name	
				Attorney Docket Number	VOLTP027

Examiner Initials		US8483775	Reference No.	335
Examiner Initials		US8483907	Reference No.	336
Examiner Initials		US8490005	Reference No.	337
Examiner Initials		US8508188	Reference No.	338
Examiner Initials		US8521599	Reference No.	339
Examiner Initials		US8527135	Reference No.	340
Examiner Initials		US8527146	Reference No.	341
Examiner Initials		US8552686	Reference No.	342
Examiner Initials		US8589019	Reference No.	343
Examiner Initials		US8624719	Reference No.	344
Examiner Initials		US8630741	Reference No.	345
Examiner Initials		US8635091	Reference No.	346
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Examiner Initials		US8751271	Reference No.	356
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Examiner Initials		US8818725	Reference No.	361
Examiner Initials		US8819414	Reference No.	362
Examiner Initials		US8825222	Reference No.	363
Examiner Initials		US8836281	Reference No.	364

/Yalkew Fantu/

01/12/2016

Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.



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BIB DATA SHEET

CONFIRMATION NO. 8299

SERIAL NUMBER 13/784,823	FILING or 371(c) DATE 03/05/2013 RULE	CLASS 320	GROUP ART UNIT 2859	ATTORNEY DOCKET NO. VOLTP027	
APPLICANTS INVENTORS Angel A. Penilla, Sacramento, CA; Albert S. Penilla, Sunnyvale, CA; ** CONTINUING DATA ***** This appln claims benefit of 61/745,729 12/24/2012 and is a CIP of 13/452,882 04/22/2012 PAT 9123035 which claims benefit of 61/478,436 04/22/2011 ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED *** SMALL ENTITY ** 04/01/2013					
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and Acknowledged <u>/YALKEW FANTU/</u> Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY CA	SHEETS DRAWINGS 27	TOTAL CLAIMS 27	INDEPENDENT CLAIMS 2
ADDRESS MARTINE PENILLA GROUP, LLP 710 LAKEWAY DRIVE SUITE 200 SUNNYVALE, CA 94085 UNITED STATES					
TITLE Methods and Systems for Defining Custom Vehicle User Interface Configurations and Cloud Services for Managing Applications for the User Interface and Learned Setting Functions					
FILING FEE RECEIVED 750	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit		

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

25920 7590 01/28/2016
MARTINE PENILLA GROUP, LLP
710 LAKEWAY DRIVE
SUITE 200
SUNNYVALE, CA 94085

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

Albert S. Penilla	(Depositor's name)
/Albert Penilla/	(Signature)
Jan. 29, 2016	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/784,823	03/05/2013	Angel A. Penilla	VOLTPO27	8299

TITLE OF INVENTION: METHODS AND SYSTEMS FOR DEFINING CUSTOM VEHICLE USER INTERFACE CONFIGURATIONS AND CLOUD SERVICES FOR MANAGING APPLICATIONS FOR THE USER INTERFACE AND LEARNED SETTING FUNCTIONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$480	\$0	\$0	\$480	04/28/2016

EXAMINER	ART UNIT	CLASS-SUBCLASS
FANTU, YALKEW	2859	320-109000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
- (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☒ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☒ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number 50-0805 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Albert Penilla/

Typed or printed name Albert S. Penilla

Date January 29, 2016

Registration No. 39,487

Electronic Patent Application Fee Transmittal

Application Number:	13784823			
Filing Date:	05-Mar-2013			
Title of Invention:	METHODS AND SYSTEMS FOR DEFINING CUSTOM VEHICLE USER INTERFACE CONFIGURATIONS AND CLOUD SERVICES FOR MANAGING APPLICATIONS FOR THE USER INTERFACE AND LEARNED SETTING FUNCTIONS			
First Named Inventor/Applicant Name:	Angel A. Penilla			
Filer:	Albert S. Penilla			
Attorney Docket Number:	VOLTP027			
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl Issue Fee	2501	1	480	480

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				480

Electronic Acknowledgement Receipt

EFS ID:	24764473
Application Number:	13784823
International Application Number:	
Confirmation Number:	8299
Title of Invention:	METHODS AND SYSTEMS FOR DEFINING CUSTOM VEHICLE USER INTERFACE CONFIGURATIONS AND CLOUD SERVICES FOR MANAGING APPLICATIONS FOR THE USER INTERFACE AND LEARNED SETTING FUNCTIONS
First Named Inventor/Applicant Name:	Angel A. Penilla
Customer Number:	25920
Filer:	Albert S. Penilla
Filer Authorized By:	
Attorney Docket Number:	VOLTP027
Receipt Date:	29-JAN-2016
Filing Date:	05-MAR-2013
Time Stamp:	13:08:08
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$480
RAM confirmation Number	12710
Deposit Account	500805
Authorized User	PENILLA, ALBERT S.

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 CFR 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	Issue Fee Payment (PTO-85B)	13784823_IssueFee_Efile.pdf	176505	no	1
			087065256a2a78d742ec2e803ebf9b65b533e06b		

Warnings:**Information:**

2	Fee Worksheet (SB06)	fee-info.pdf	30360	no	2
			4664ddfd112522ebcad900c9179271a027fd5f		

Warnings:**Information:**

Total Files Size (in bytes):	206865
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

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.



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UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/784,823	03/05/2013	Angel A. Penilla	VOLTP027	8299

25920 7590 02/11/2016
MARTINE PENILLA GROUP, LLP
710 LAKEWAY DRIVE
SUITE 200
SUNNYVALE, CA 94085

EXAMINER

FANTU, YALKEW

ART UNIT	PAPER NUMBER
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2859

MAIL DATE	DELIVERY MODE
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02/11/2016

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Corrected Notice of Allowability	Application No. 13/784,823	Applicant(s) PENILLA ET AL.	
	Examiner YALKEW FANTU	Art Unit 2859	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 02/08/2016.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 1-27. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some *c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. ☐ Notice of References Cited (PTO-892) | 5. ☒ Examiner's Amendment/Comment |
| 2. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 6. ☒ Examiner's Statement of Reasons for Allowance |
| 3. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 7. ☐ Other _____. |
| 4. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____. | |

/YALKEW FANTU/
Primary Examiner, Art Unit 2859

DETAILED ACTION

The present application is being examined under the pre-AIA first to invent provisions. A terminal disclaimer was previously filed with application 14/246,145 in order to overcome the non-statutory double patenting issue raised with this instant application earlier, which is currently allowed as US 9,229,623.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee. Authorization for this examiner's amendment was given in a telephone interview with Albert S. Penilla on 01/12/2016.

The application has been amended as follows:

Paragraph 0045 of the specification has a typographical error, on line one, recites ... **Figures 13A-13A** ... replace with --- **Figures 13A-13D** ---

Please amend claim 1, claim 8, and **cancel the second or repeated claim 15,**
and add claim 27 as follows:

Claim 1: A method, comprising: providing access to cloud services over the Internet for customizing a user interface of a vehicle, **the cloud services maintaining a database of user accounts**; providing selection options to identify a vehicle type among a plurality of vehicle types, each vehicle type being associated with a system

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component native to the vehicle type, the system component providing native interfaces for the vehicle type;

identifying a plurality of applications available for the vehicle type, each of the applications provided with predefined code for communicating with at least one control interface of the system component;

identifying an application from the plurality of applications, the application providing an app interface to be added to the user interface of the vehicle;

generating a custom configuration of the user interface for the vehicle type that includes native interfaces provided by at least one system component native to the vehicle type and the app interface for the application, the custom configuration is saved to a user account in the database interfaced with cloud services over the Internet; and

transferring, wirelessly from the cloud services, at least part of the custom configuration to the vehicle to cause at least a portion of an image for the user interface to be rendered on a vehicle display, the method being executed by a processor.

Claim 27: The method of claim 14, wherein the programming of one or more components of the custom configuration includes automatically setting input based on times of day, or days of week, or dates of month, or times of year, or combinations thereof.

Claim 8, on line 2-3, replace "... **maintaining a database of user accounts, each user account having one or more custom configurations of user**

Art Unit: 2859

interfaces...” with - - - each user account having one or more custom configurations of user interfaces which are maintained in the database; and - - -

Claim 15, on line 5, replace “... saved in a database ...” with - - - saved in the database - - -

REASONS FOR ALLOWANCE

The following is the examiner's statement of reasons for allowance.

The two references, Nor and Shiim, are the closest prior art of record.

Nor et al. (US 5,548,200) reference discloses a method and apparatus of an electric vehicle that is connected to a charging station in order to charge the vehicle under the control of a charging controller module. The controller module uses parameters of charging current and charging voltage set by the on board battery charging controller, or the charging controller in the charging station. Shiim et al. (US 2010/0037057) reference discloses a system and method for using network devices in a vehicle in a tightly integrated manner. The vehicle has an OBE, a mobile device client, and vehicle components, and the mobile device has a mobile device proxy and applications, such that the mobile device client and the mobile device proxy communicate, enabling dynamic transfer of the applications to the OBE and execution of the applications on the mobile device and the OBE using the plurality of vehicle components at runtime.

But both references and any prior art of record, do not disclose or suggest the following Claims 1 and 26 limitations: “... method ... providing access to cloud services over the Internet for customizing a user interface of a vehicle; providing selection

Art Unit: 2859

options to identify a vehicle type among a plurality of vehicle types, each vehicle type being associated with a system component native to the vehicle type.... **maintaining a database of user accounts, each user account having one or more custom configurations of user interfaces; processing a request to use a second custom configuration on the vehicle, the request being received from the vehicle upon entering credentials to access a second user account; transferring the second custom configuration to the vehicle for use while the credentials of the second user account are active on the vehicle, wherein a verified request to use the second custom configuration terminates use of the custom configuration in favor of the second custom configuration**” in combination with the remaining claims elements as set forth in Claims 1, 26 and depending claims 2-7, and 9-27. *Therefore* claims 1-7, 9-27 are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YALKEW FANTU whose telephone number is (571)272-8928. The examiner can normally be reached on M-F: 7 - 4.

Art Unit: 2859

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DREW A. DUNN can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/YALKEW FANTU/

Primary Examiner, Art Unit 2859



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ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 643 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

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