

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FORD MOTOR COMPANY
Petitioner,

v.

AUTOCONNECT HOLDINGS, LLC
Patent Owner.

U.S. Patent No. 9,123,186 to Ricci

Case No.: IPR2025-01524

**PETITION FOR *INTER PARTES* REVIEW
UNDER 35 U.S.C. § 311 *ET SEQ.* AND 37 C.F.R. § 42.100 *ET SEQ.*
(U.S. PATENT NO. 9,123,186)**

Table of Contents

List of Exhibits.....	iii
Mandatory Notices under 37 C.F.R. § 42.8	vi
Real Party-In-Interest - 37 C.F.R. § 42.8(b)(1)	vi
Related Matters - 37 C.F.R. § 42.8(b)(2)	vi
Lead and Back-Up Counsel - 37 C.F.R. § 42.8(b)(3)	vii
Service Information - 37 C.F.R. § 42.8(b)(4).....	vii
Fees - 37 C.F.R. § 42.15(a).....	vii
I. Introduction and Technology Overview.....	1
II. Grounds for Standing Requirements under 37 C.F.R. § 42.104	3
A. Grounds for Standing - 37 C.F.R. § 42.104(a).....	3
B. Challenged Claims - 37 C.F.R. § 42.104(b)(1).....	3
C. Prior Art Relied Upon	3
D. Grounds of Challenge – 37 C.F.R. § 42.104(b)(2)	4
III. Person of Ordinary Skill in the Art.....	4
IV. The Challenged '186 Patent	5
A. Priority Claim	5
B. Overview	5
C. Prosecution History	7
V. Claim Construction — 37 C.F.R. § 42.104(B)(3).....	9
A. Claims 1-2, 5-6, 8-9, 12-13, 15-16, and 20-21: “and/or”	9
B. Claims 1, 8, and 15: “ <i>at least one of an area and/or zone occupied by the vehicle occupant and an operating state of the vehicle</i> ”	9
C. Claims 1, 6, 8, 13, 15, and 20: “ <i>the account defining rights and privileges</i> ”	10
VI. Prior Art Overview	11
A. Gratz (Ex. 1018).....	11
B. Bosch (Ex. 1050).....	12
C. Rector (Ex. 1017)	13
D. Moinzadeh (Ex. 1013).....	13
VII. Unpatentability Grounds.....	15
A. Ground 1: Claims 1, 5, 8, 15, and 19 are Unpatentable as Obvious Over Gratz and Bosch.....	16

1.	Rationale to Combine	16
2.	Independent Claims 1, 8, 153F.....	18
3.	Dependent Claims 5 and 19	37
B.	Ground 2: Claims 6-7, 12-14, and 20-21 are Unpatentable as Obvious Over Gratz, Bosch, and Rector	45
1.	Rationale to Combine	45
2.	Dependent Claims 6-7, 12-14, and 20-21	51
C.	Ground 3: Claims 1-4, 6-11, 14-18, and 20 are Unpatentable as Obvious Over Moinzadeh	58
1.	Independent Claims 1, 8, 15	58
2.	Dependent Claims 2-4, 6-7, 9-11, 14, 16-18, and 20.....	81
VIII.	Conclusion	96
	Certificate of Service	97
	Certificate of Compliance Pursuant to 37 C.F.R. § 42.24	98
	Appendix A	99
A.	Listing of All Challenged Claims	100
	Appendix B	110
A.	Comparison of Independent Claims.....	111
B.	Comparison of Dependent Claims	114

List of Exhibits

Exhibit No.	Description
1001	U.S. Patent No. 9,123,186 (“the ’186 Patent”)
1002	U.S. Patent No. 9,123,186 Certified File History (“the ’186 File History”)
1003	Expert Declaration of Scott Andrews
1004	Scott Andrews Curriculum Vitae
1005	<i>AutoConnect Holdings LLC v. Ford Motor Company</i> , Complaint, Case No. 1:24-cv-01327-JCG (D. Del.) Filed December 6, 2024 (“Complaint”)
1006	Plaintiff’s Opposition to Defendant’s Motion to Dismiss, <i>AutoConnect Holdings LLC v. Ford Motor Company</i> , Case No. 1:24-cv-01327-CFC (D Del.) Filed February 28, 2025 (“Opposition”)
1007	<i>AutoConnect Holdings LLC v. Ford Motor Company</i> , Ford’s Reply In Support of Motion to Dismiss, Case No. 1:24-cv-01327-JCG (D. Del.) Filed March 7, 2025
1008-1009	<i>Intentionally left blank</i>
1010	U.S. Patent No. 8,768,539 B1 to Clement (“Clement”)
1011-1012	<i>Intentionally left blank</i>
1013	U.S. Patent Application Pub. No. 2011/0093153 A1 to Moinzadeh (“Moinzadeh”)
1014-1015	<i>Intentionally left blank</i>
1016	U.S. Patent No. 9,002,536 B2 to Hatton (“Hatton”)
1017	U.S Patent Application Pub. No. 2011/0137520 A1 to Rector (“Rector”)
1018	U.S. Patent Application Pub. No. 2008/0245598 A1 to Gratz (“Gratz”)
1019-1027	<i>Intentionally left blank</i>
1028	2010 Ford F-150 Owner’s Manual (Ford Motor Company 2009) (“F-150 Manual”)
1029-1049	<i>Intentionally left blank</i>
1050	Bosch Handbook, (Automotive Handbook October 2004 6 th Edition) (“Bosch”)
1051	IEEE Dictionary, (IEEE 100 The Authoritative Dictionary of IEEE Standards Terms 2000 7 th Edition) (“IEEE Dictionary”)

Exhibit No.	Description
1052	“Specification of The Bluetooth System” (June 30, 2010). Version 4.0 (Volumes 0-6) Available at https://www.bluetooth.com/specifications/specs/core-specification-4-0/ (Accessed June 27, 2025) (“Bluetooth Specification”)
1053	Hossain et al., “A Comprehensive Study of Bluetooth Signal Parameters for Localization,” 2007 IEEE 18 th International Symposium on Person, Indoor and Mobile Radio Communications Available at https://www.ieeeexplore.ieee.org/document/4394215 (“Hossain”)
1054-1055	<i>Intentionally left blank</i>
1056	Peterson, Andrew, “Do not disturb, Ford Fights Distracted Driving with Limited In-Motion Sync Access,” July 12, 2010. Available at https://www.motortrend.com/news/163-news100712-ford-sync-do-not-disturb (Accessed June 24, 2025) (“Motor Trend”)
1057	Allen, Leslie “Ford launches parental control technologies,” October 7, 2008. Available at https://www.autonews.com/article/20081007/ZZZ_SPECIAL/310079921/ford-launches-parental-control-technologies/ (Accessed June 24, 2025) (“Auto News”)
1058	Ghangurde, Mujund “Ford SYNC and Microsoft Windows Embedded Automotive Make Digital Lifestyle a Reality on the Road,” <i>SAE International</i> , Volume 3, Issue 2, October 19, 2010 SAE2010-01-02319 (Accessed April 25, 2025) (“Ghangurde”)
1059	Austin, Michael “Ford introduces Next-Gen Connectivity Suite Called MyFord; Should be Awesome,” January 6, 2010. Available at https://www.caranddriver.com/news/a15128939/ford-introduces-next-gen-connectivity-suite-called-myford-should-be-awesome-car-news/ (“Car and Driver”)
1060	<i>Intentionally left blank</i>
1061	Ford SYNC Supplemental Guide, November 2007 (“Sync Guide 2007”)
1062	Ford SYNC Supplemental Guide, January 2010 (“Sync Guide 2010”)
1063	<i>Intentionally left blank</i>

Exhibit No.	Description
1064	MyFord Touch Ford User Guide Ford Motor Company, February 2012 (“MyFord Touch Guide”)
1065-1067	<i>Intentionally left blank</i>
1068	Vahid, Frank et al., “Timing is Everything – Why Embedded Systems Demand Early Teaching of Structured Time-Oriented Programming,” Proceedings of the 2008 Workshop on Embedded Systems Education, WESE 2008 Atlanta, Georgia October 23, 2008. Available at (“Vahid”)
1069	Woerner, Joerg, “Intel and TI: Microprocessors and Microcontrollers” (February 26, 2001). Available at http://www.datamath.org/Story/Intel.htm (Accessed Sept. 9, 2025) (“TI TMS1000”)
1070	Pfaffenberger, Bryan (Websters New World Dictionary of Computer Terms 6 th Edition (Simon & Schuster, Inc. 1997) (“Computer Terms”)
1071	<i>Intentionally left blank</i>
1072	McCartney, Scott, “ENIAC The Triumphs and Tragedies of the World’s First Computer,” (Walker Publishing Co., Inc. 1999) (“ENIAC”)
1073	Evans, Christopher “The Micro Millenium” (The Viking Press 1980) (“Micro Millenium”)
1074	U.S. Patent No. 7,663,607 B2 to Hotelling et al. (“Hotelling”)
1075-1099	<i>Intentionally left blank</i>
1100	United States District Courts – National Judicial Caseload Profile, March 2025

Mandatory Notices under 37 C.F.R. § 42.8

Real Party-In-Interest - 37 C.F.R. § 42.8(b)(1)

Petitioner certifies that Ford Motor Company (“Petitioner”) is the real party-in-interest.

Related Matters - 37 C.F.R. § 42.8(b)(2)

Petitioner identifies the following related judicial matter: *AutoConnect Holdings, LLC v. Ford Motor Company*, 1:24-cv-01327-JCG (D. Del) (pending) served December 6, 2024. U.S. Patent No. 9,123,186 is being asserted in this proceeding, along with twelve other patents: U.S. 9,020,491; U.S. 9,020,697; U.S. 9,082,239; U.S. 9,098,367; U.S. 9,116,786; U.S. 9,140,560; U.S. 9,147,296; U.S. 9,147,297; U.S. 9,173,100; U.S. 9,290,153; U.S. 10,862,764; and U.S. 11,163,931.

Petitioner filed IPR2025-01342 challenging U.S. 9,020,697 and IPR2025-01383 challenging U.S. 9,290,153.

Petitioner is also aware that U.S. Patent No. 9,123,186 is being asserted in *AutoConnect Holdings LLC v. Toyota Motor Corporation et al.* 2-24-cv-00802 (EDTX) (pending) filed October 3, 2024.

Lead and Back-Up Counsel - 37 C.F.R. § 42.8(b)(3)

The Petitioner identifies the following lead and back-up counsel:

Lead Counsel	Back-Up Counsel
Andrew B. Turner (Reg. No. 63,121) BROOKS KUSHMAN P.C. 150 W. Second St., Suite 400N Royal Oak, MI 48067-3846 Telephone (248) 358-4400 Facsimile (248) 358-3351 aturner@brookskushman.com	John S. LeRoy (Reg. No. 48,158) Christopher Smith (Reg. No. 59,669) Kyle G. Konz (Reg. No. 68,910) BROOKS KUSHMAN P.C. 150 W. Second St., Suite 400N Royal Oak, MI 48067-3846 Telephone (248) 358-4400 Facsimile (248) 358-3351 jleroy@brookskushman.com csmith@brookskushman.com kkonz@brookskushman.com

An appropriate Power of Attorney is filed concurrently herewith.

Service Information - 37 C.F.R. § 42.8(b)(4)

Service information for lead and back-up counsel is provided in the designations above. Petitioner hereby consents to service by email at the following email address: FPGP0151IPR@brookskushman.com.

Fees - 37 C.F.R. § 42.15(a)

The filing fees associated with this Petition are being charged to Deposit Account 06-1510. The Board is authorized to charge any additional fees or credit any refunds pertaining to this Petition to Deposit Account 06-1510.

I. Introduction and Technology Overview

Petitioner Ford Motor Company (“Ford”) respectfully requests *inter partes* review (“IPR”) of claims 1-21 of U.S. Patent No. 9,123,186 (“the ’186 Patent”, Ex. 1001). The Declaration of Mr. Scott Andrews is filed in support as Ex. 1003.

The ’186 Patent is one of thirteen patents Patent Owner, AutoConnect Holdings, LLC (“AutoConnect”) asserted against Petitioner in litigation. (Complaint, Ex. 1005.) The ’186 Patent relates to “[m]ethods and systems for a vehicle control system to control user access to vehicle tasks, functions and/or operations based on rights and privileges set forth in user accounts.” (Ex. 1001, Abstract.)

Prior to the effective filing date of the ’186 Patent, vehicles were known to include safety systems that restricted operation of the vehicle based on who was driving. *See e.g.*, Gratz. (Ex. 1018, [0025].) This, for example, allowed parents to create restrictions, e.g., speed limits, for teenage drivers. (*Id.*) It was known for these systems to be micro-processor based. (Ex. 1003, ¶¶ 93-100; Ex. 1072, 101; Ex. 1073, 73; Ex. 1068, 3; Ex. 1069, 3; Ex. 1070, 442; Ex. 1051, 152.)

Petitioner released its first-generation SYNC infotainment system in 2007 and its second-generation SYNC system in 2010—years before the earliest claimed filing date of the ’186 Patent. Both SYNC systems included user convenience features and customization features, e.g., hands-free phone control, hands-free

texting, and customized voice-command shortcuts for frequently accessed features such as climate control or selecting radio stations. (Ex. 1003, ¶¶ 107-109; Ex. 1062, 2; Ex. 1064, 9, 11; *see also*, Ex. 1058, 102-103; Ex. 1059, 5; Ex. 1061, 2-5; Ex. 1056, 1-4.) Petitioner also released its MyKey system in 2009, which enabled a user (*e.g.*, a vehicle owner) to associate user-selectable settings and limits with designated keys. (Ex. 1057, 1-6.)

The '186 Patent claims recite well-known restrictions/rules for one or more vehicle systems and other common features, such as performing different tasks in different vehicle areas (Ex. 1003, ¶¶ 115-116; Ex. 1010; Ex. 1053, 1-2), vehicle-state based restrictions (Ex. 1018), and entertainment system related tasks (Ex. 1017).

The litigation filed by Patent Owner ("PO") is in its early pleadings stage, and trial will likely occur (if at all) in late 2027, long after the projected final decision here. (Ex. 1100, 14.) Additionally, although the '186 Patent issued over 9 years ago, Petitioner had settled expectations that it would not be asserted against Petitioner because, *inter alia*, since acquiring the '186 Patent in 2015, PO had not commercialized, asserted, marked, licensed, or otherwise applied the '186 Patent before contacting Petitioner in December 2023. (Ex. 1005, 9.)

III. Grounds for Standing Requirements under 37 C.F.R. § 42.104

A. Grounds for Standing - 37 C.F.R. § 42.104(a)

Pursuant to 37 C.F.R. § 42.104(a), Petitioner certifies that the '186 Patent is available for IPR and that Petitioner is not barred or estopped from requesting IPR.

B. Challenged Claims - 37 C.F.R. § 42.104(b)(1)

Petitioner requests *inter partes* review for claims 1-21 of the '186 Patent and requests that the Patent Trial and Appeal Board ("PTAB") find these claims as unpatentable.

C. Prior Art Relied Upon

The '186 Patent was filed after March 16, 2013 and thus AIA applies. (Ex. 1002, 580.) The following patent and patent-publication references were published prior to the earliest claimed priority date of the '186 Patent (April 15, 2013¹).

- Gratz – U.S. 2008/0245598 (Ex. 1018) published October 9, 2008 (AIA §102(a)(1))
- Rector – U.S. 2011/0137520 (Ex. 1017) published June 9, 2011 (AIA §102(a)(1))

¹ Petitioner does not concede that the '186 Patent is entitled to this priority date.

- Moinzadeh – U.S. 2011/0093153 (Ex. 1013) published April 21, 2011 (AIA §102(a)(1))
- Bosch – Bosch Automotive Handbook 6th Edition, Robert Bosch GmbH (Ex. 1050) published 2004 (AIA §102(a)(1))

D. Grounds of Challenge – 37 C.F.R. § 42.104(b)(2)

The grounds of unpatentability presented in this petition are as follows:

Ground	Basis ²	References	Claims Challenged
1	§103	Gratz and Bosch	1, 5, 8, 15, and 19
2	§103	Gratz, Bosch, and Rector	6-7, 12-14, 20-21
3	§103	Moinzadeh	1-4, 6-11, 14-18, and 20

There is a reasonable likelihood at least one Challenged Claim is unpatentable as explained herein. Petitioner requests review of the Challenged Claims and judgment finding them unpatentable.

IV. Person of Ordinary Skill in the Art

A person of ordinary skill in the art (“POSA”) of the ’186 Patent would have

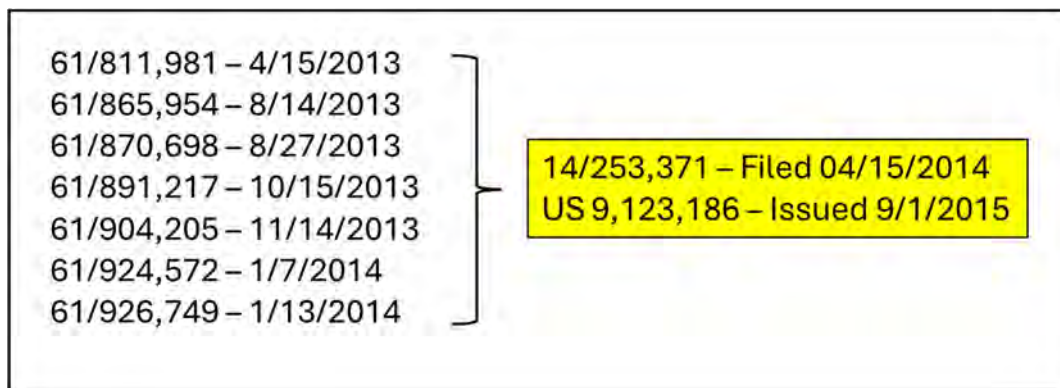
² AIA Sections 102, 103 and 112 apply.

had, as of April 15, 2013, a Bachelor's degree in Electrical Engineering, Mechanical Engineering, or an equivalent degree with at least two years of experience in vehicle control systems, vehicle sensor systems, electronic user interface systems, or related technologies. Additional industry experience could make up for less education and vice versa. (Ex. 1003, ¶¶ 45-47.) Mr. Andrews qualifies as a skilled artisan. (Ex. 1003, ¶ 48; Ex. 1004.)

V. The Challenged '186 Patent

A. Priority Claim

The '186 Patent matured from U.S. Patent Application serial no. 14/253,371 filed April 15, 2014. (Ex. 1002, 1.) The '186 Patent claims priority to seven U.S. provisional applications. The earliest Provisional Application (61/811,981) was filed on April 15, 2013. (Ex. 1003, ¶ 50.)



The '186 Patent Family

B. Overview

The '186 Patent relates to “[m]ethods and systems for a vehicle control system

to control user access to vehicle tasks, functions and/or operations based on rights and privileges set forth in user accounts.” (Ex. 1001, Abstract; Ex. 1003, ¶ 54.) The method and control system operations are illustrated in Figure 27. (Ex. 1003, ¶ 58.)

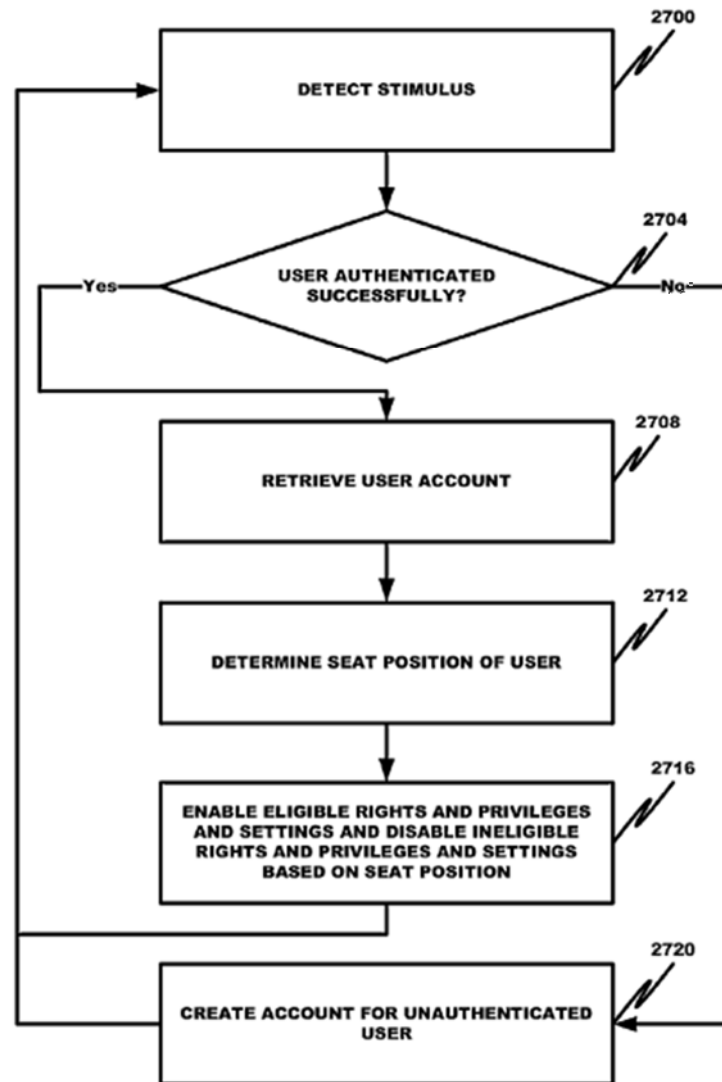


FIG. 27

Ex. 1001, Fig. 27

The method/control system 204 includes authenticating the user (operation 2704) and, if successful, retrieving the user account (operation 2708). (Ex. 1001,

113:54-56, 114:28-30; Ex. 1003, ¶¶ 59-60.)

Independent claims 1, 8, and 15 are directed to controlling user access to vehicle tasks, functions and/or operations based on rights and privileges set forth in user accounts. The claimed “*rights and privileges*” refer to actions a user can or cannot do, i.e., permissions. (Ex. 1003, ¶¶ 81-82.) For example, the ’186 Patent explains that a “system user has exclusive rights and privileges over all communication device firewall rules and running software[,]” whereas a “dashboard user can have rights to launch a dashboard application and authenticate guest or default users and change permissions to trusted friends or family members.” (Ex. 1001, 111:21-31, *see also* 8:62-64, 9:38-42; Ex. 1003, ¶¶ 57-64.)

The vehicle occupant’s permission may be further based on an operating state of the vehicle. The ’186 Patent provides examples of the claimed “*operating state*,” including “in motion, parked, in gear, in neutral, and the like” (Ex. 1001, 114:39-41; Ex. 1003, ¶60.)

C. Prosecution History

U.S. Patent Application No. 14/253371 was filed on April 15, 2014 with twenty-one claims, including independent claims 1, 8, and 15. (Ex. 1002, 1, 182-186; Ex. 1003, ¶ 65.)

On December 16, 2014, the Examiner issued the first Office Action. (Ex. 1002, 578-583.) Claims 1-21 were rejected under 35 U.S.C. §112(a) because

“independent claims 1, 8 and 15 recite the limitation ‘task, function and/or operation’, without defining either in the specification or claims, what activities are tasks, what activities are functions or what activities are operations.” (Ex. 1002, 580; Ex. 1003, ¶¶ 66-68.)

PO did not traverse the rejections and instead amended the independent claims to include a listing of claimed vehicle task, function or operation to overcome the §112 rejections. (Ex. 1002, 605-611; Ex. 1003, ¶¶ 69-71.) For example, limitation [1.4] was added. (Ex. 1002, 605.) The Examiner allowed the application following the claim amendments without providing any reasons for allowance. (Ex. 1002, 616-621.)

The application issued to Flextronics AP, LLC as the '186 Patent on September 1, 2015. (Ex. 1001, Cover.) A certificate of correction was issued on March 15, 2016 to fix typographical errors in claims 8 and 16³. (Ex. 1002, 692.)

Gratz, Bosch, Rector, and Moinzadeh were not considered during examination and are not cited on the '186 Patent. (See, Ex. 1001, 1-4; Ex. 1003, ¶¶ 72-76.)

³ These corrections are noted in Appendix A using brackets (“[]”). Quotes from claims 8 and 16 in the body of the petition are shown in corrected form without brackets.

VI. Claim Construction — 37 C.F.R. § 42.104(B)(3)

In an IPR proceeding, the claims are construed “in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.100(b); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc). Petitioner applies the plain and ordinary meaning of the Challenged Claims to the asserted prior art references in support of all grounds herein.

Petitioner proposes the following claim constructions for the purposes of this IPR only.

A. Claims 1-2, 5-6, 8-9, 12-13, 15-16, and 20-21: “*and/or*”

Petitioner interprets “and/or” as “or” in accordance with PO’s position in the related litigation. (Ex. 1006, 6.)

B. Claims 1, 8, and 15: “*at least one of an area and/or zone occupied by the vehicle occupant and an operating state of the vehicle*”

PO argued in district court that this claim limitation should be read as “at least one of: (1) an area occupied by the vehicle occupant, (2) a zone occupied by the

vehicle occupant, and (3) an operating state of the vehicle.” (Ex. 1006, 10.)⁴

For this proceeding only, Petitioner interprets this limitation in accordance with PO’s construction.

C. Claims 1, 6, 8, 13, 15, and 20: “*the account defining rights and privileges*”

The claims of the ’186 Patent consistently use the terms “rights” and “privileges” together as a noun phrase, “rights and privileges.” These terms are never used separately in the claims. (Ex. 1003, ¶ 80.)

Like the claims, the specification largely uses the terms “rights” and “privileges” together as a noun phrase. (Ex. 1001, ubiquitous throughout.) And, when used separately, the terms “rights” and “privileges” are used as synonyms. (Ex. 1003, ¶ 81.) One example of the specification’s interchangeable use of “rights and privileges,” “rights,” and “privileges” arises when describing user permissions. (Ex. 1001, 111:15-42.) In this example, when describing “user and/or device-specific

⁴ Petitioner’s use of PO’s interpretation in this proceeding shall not be interpreted as Petitioner’s adoption of that construction on the merits. Petitioner asserts in the related litigation that certain challenged claims of the ’186 Patent are indefinite under 35 U.S.C. § 112(b) in part based on the ’186 Patent’s definition for the term “and/or.” (See Ex. 1007, 2.)

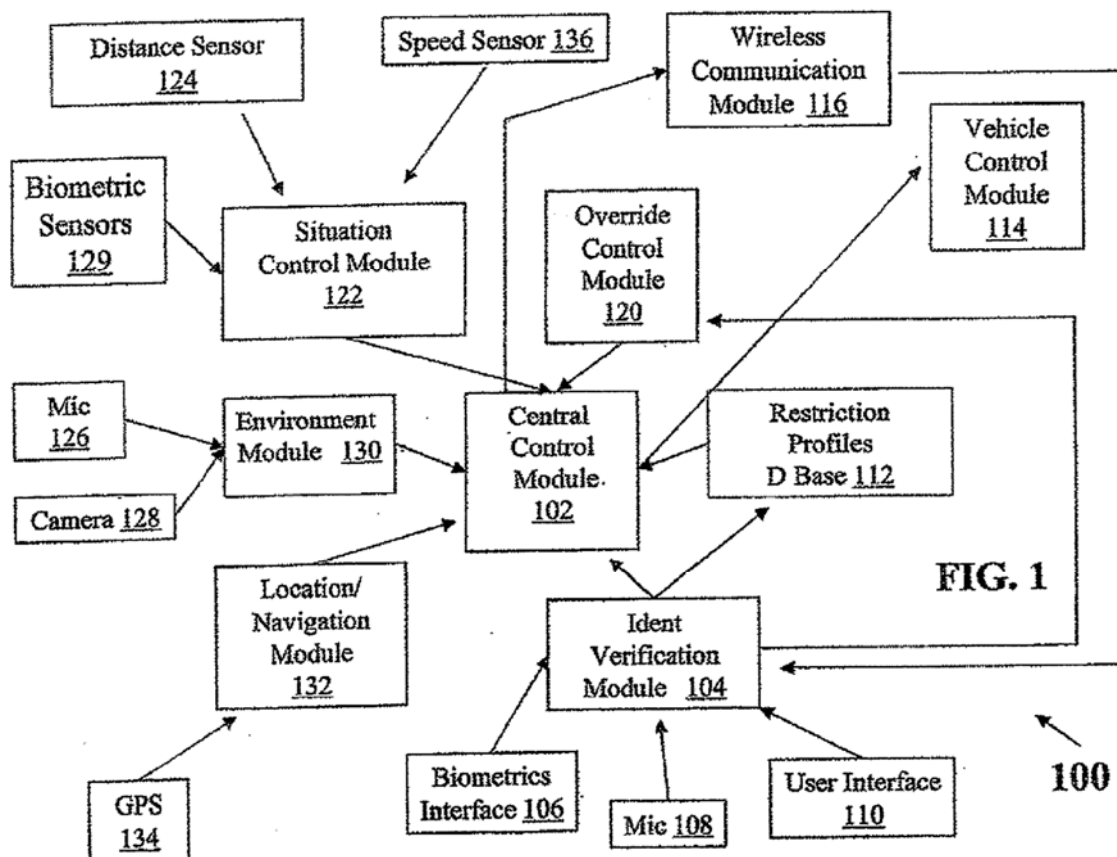
privileges” the specification uses the term “rights” and the phrase “rights and privileges.” That is, the specification explains the user’s privileges by listing his rights. (Ex. 1003, ¶ 81.)

In another example, the specification uses the phrase “rights and privileges” to describe a single permission, i.e., “read only.” (Ex. 1001, 13:25-28) The specification’s interchangeable use of “rights” and “privileges” in conjunction with “rights and privileges” referring to a single permission makes clear that there is no distinction between “rights” and privileges” in the context of the ’186 Patent. In fact, the specification consistently uses “rights and privileges,” “rights,” or “privileges” to describe permissions of a user or device. It is clear from the specification that “rights and privileges” simply refers to permissions. (Ex. 1003, ¶¶ 81-82.) Therefore, the claimed “*account defining rights and privileges of the user*” should be construed as “*the account defining [permissions] of the user.*”

VII. Prior Art Overview

A. Gratz (Ex. 1018)

Gratz discloses a vehicle having a motor vehicle restriction control system 100 “for restricting a driver's operation of a motor vehicle” in order to improve driver safety. (Ex. 1018, [0002].)



Ex. 1018, Fig. 1

The system 100 stores restriction profiles in a database 112. Each profile can include restrictions/operating rules limiting vehicle functionality, such as a maximum vehicle speed. (Ex. 1018, [0035]-[0036]; Ex. 1003, ¶¶ 134-140.)

B. Bosch (Ex. 1050)

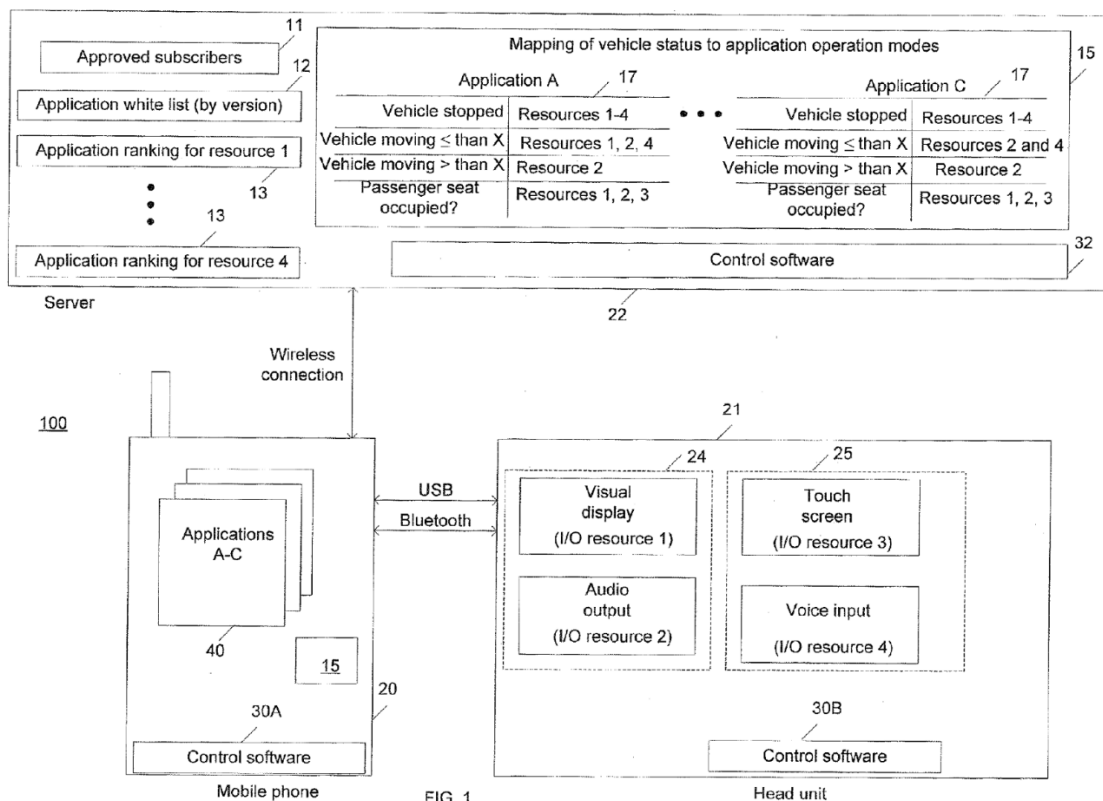
Bosch is a reference handbook for automotive engineers. (Ex. 1050, Back Cover.) Bosch describes the common structure of an automotive electronic control unit (ECU) as of 2004, including a “[m]icroprocessor” and “memory.” (Ex. 1050, 94, 96; Ex. 1003, ¶ 141.)

C. Rector (Ex. 1017)

Rector is similar to Gratz, disclosing a safety system enabling a controlling authority (e.g., a parent) to set restrictions for drivers, e.g., a maximum vehicle speed. (Ex. 1017, [0002], [0004], [0007]-[0008].) The system includes a unique identifier (stored in database 134) for each authorized driver used to identify the person driving the vehicle and impose the restriction settings, e.g., maximum vehicle speed, for that driver stored within the database 134. Rector also discloses driver-created settings, e.g., seat position and pre-set radio stations, stored in the database 134. (Ex. 1017, [0031]-[0033]; Ex. 1003, ¶¶ 142-145.)

D. Moinzadeh (Ex. 1013)

Moinzadeh discloses a vehicle system 100 that extends mobile phone applications 40 to a vehicle head unit 21. (Ex. 1013, [0005], [0016], [0020], [0065].)



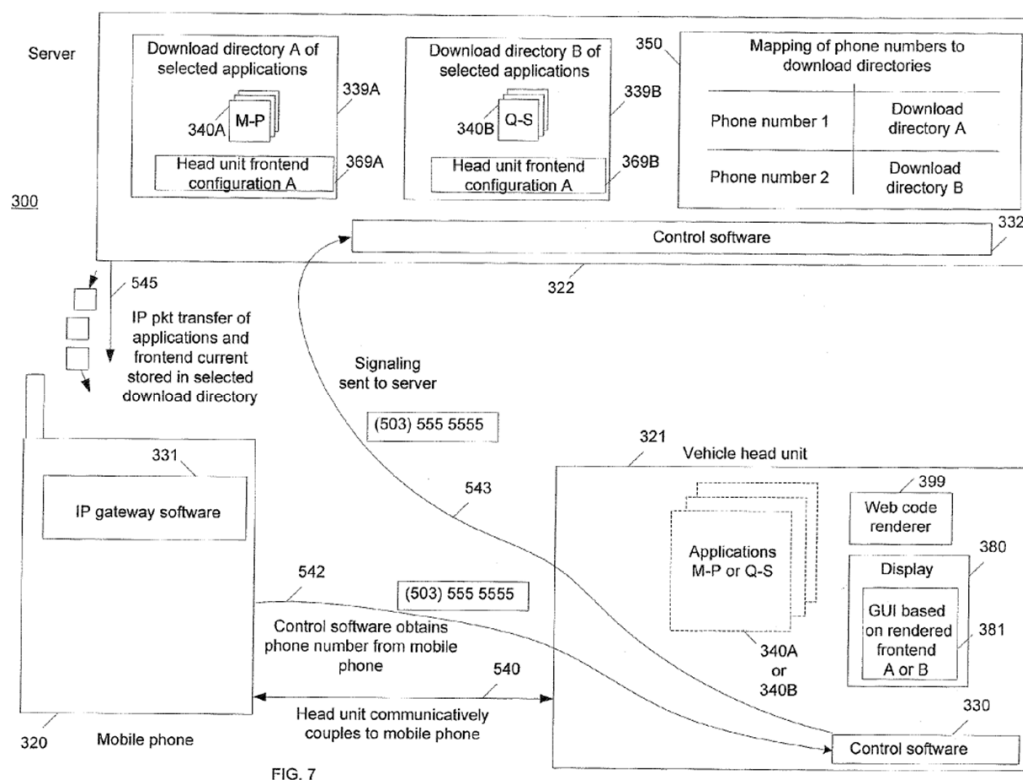
Ex. 1013, Fig. 1

The head unit 21 has input and output (I/O) resources, e.g., the visual display 24, the touch screen 25, the audio output, and the voice input. The system 100 includes software 30A, 30B, and 32 that regulates and controls how applications on the phone 20 access the I/O resources in the vehicle. (Ex. 1013, [0021]; Ex. 1003, ¶¶ 146-149.)

The system 100 includes a subscriber database 11 that stores the user identifiers, an application whitelist 12 that lists applications that are available for extending to the vehicle head unit, and mapping 15 that defines permissions for the

user's applications 40 based on a sensed operating state of the vehicle, such as stopped or moving. (Ex. 1013, [0024]-[0026]; Ex. 1003, ¶¶ 150-151.)

Moinzadeh also discloses a system 300 that may be combined with the system 100. (Ex. 1013, [0067], [0079].) The system 300 adds the ability to download applications to the head unit and customize the graphical user interface (GUI) and wallpaper of the head unit. (Ex. 1013, [0072]-[0074], [0077]; Ex. 1003, ¶¶ 152-160.)



Ex. 1013, Fig. 7

VIII. Unpatentability Grounds

The references below render the claimed subject matter invalid under 35 U.S.C. §103, and the Petitioner therefore has a reasonable likelihood of prevailing

as to each of the following grounds of unpatentability. 35 U.S.C. § 314(a); 37 C.F.R. § 42.104(b)(4).

A. Ground 1: Claims 1, 5, 8, 15, and 19 are Unpatentable as Obvious Over Gratz and Bosch

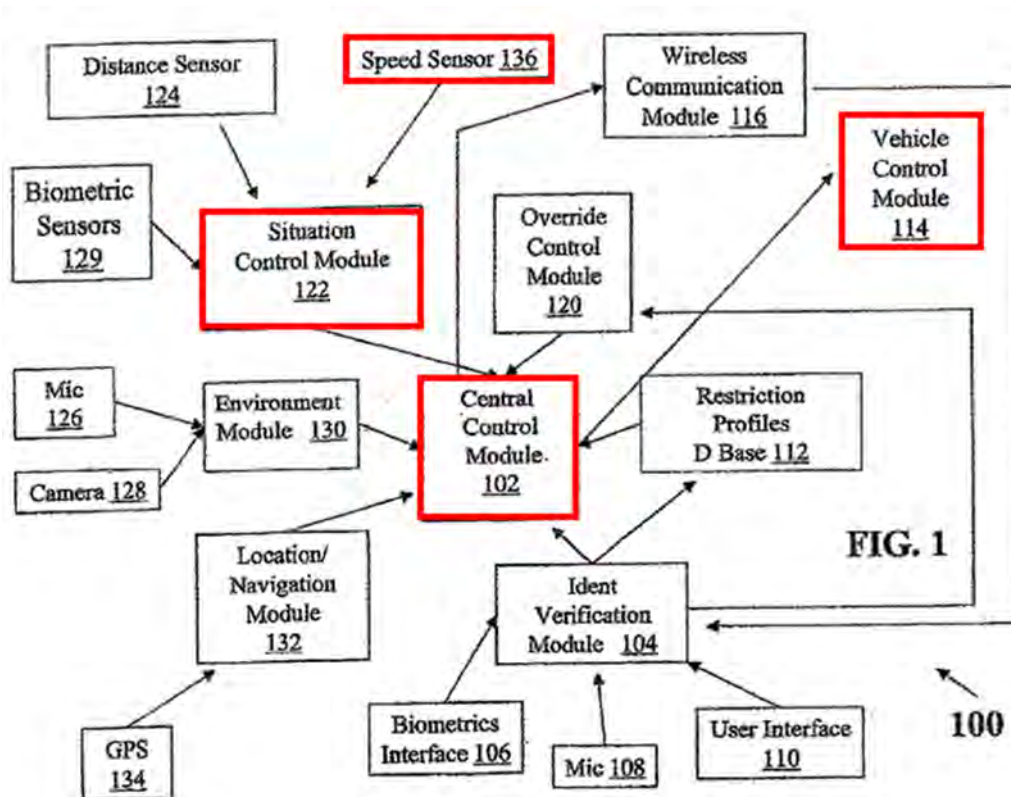
1. Rationale to Combine

It would have been obvious to a POSA prior to the effective filing date of the '186 Patent to implement the CPU of Gratz as a microprocessor, as taught by Bosch, to improve a similar device in the same way, e.g., to reduce cost and save space for a high-volume component. (Ex. 1003, ¶ 161.)

Gratz and Bosch are analogous prior art with both being in the same field of automotive systems that include controllers or electronic control units for performing vehicle functions. (Ex. 1018, [0002]; Ex. 1050, 94, 96, 1065; Ex. 1003, ¶ 162.) A POSA would have understood that Gratz and Bosch are complementary technologies that are combinable. (Ex. 1003, ¶ 162.) In fact, Gratz discloses that “[v]ariations, modifications, and other implementations of what is described herein may occur to those of ordinary skill in the art without departing from the spirit and scope of the invention.” (Ex. 1018, [0057].)

Bosch explains vehicle electronic control units can be subdivided into the “conditioning of input signals, the logic processing of these signals in the microcomputer, and the output of logic and power levels as regulation or control

signals....” (Ex. 1050, 1065; Ex. 1003, ¶ 163.) Gratz discloses the same structure with the central control module 102 receiving input signals from sensors (e.g., speed sensor 136) and modules (e.g., situation control module 122), and outputting control signals to the actuator modules (e.g., vehicle control module 114). (Ex. 1018, [0027]-[0028], Fig. 1; Ex. 1003, ¶ 163.)



Ex. 1018, Fig. 1

A POSA would have been motivated to implement Gratz’s central processing unit (CPU) as a microprocessor to execute Gratz’s software for the restriction control system 100 as a known cost-effective option for high-volume automotive applications and a space-saving option. (Ex. 1018, [0027]; Ex. 1050, 94; Ex. 1003,

¶ 164.) Bosch further discloses CPUs were microprocessors in the automotive context by at least 2004. A microprocessor allows the application of data processing in the vehicle without the designers needing to design and develop each individual processing component. (Ex. 1050, 94; Ex. 1003, ¶ 164.) Therefore, a POSA would have been motivated to implement a restriction control system using widely available microprocessors that can be tailored for specific applications as disclosed by Bosch. (Ex. 1003, ¶ 164.)

Gratz already discloses a CPU. (Ex. 1018, [0027].) A POSA would have understood how to implement a CPU as a microprocessor. (Ex. 1003, ¶ 165.) As disclosed in Bosch, automotive designers were well aware that microprocessor architectures were available and could be easily configured to execute a particular automotive control system, such as Gratz's restriction system 100. (Ex. 1050, 94; Ex. 1003, ¶ 165.)

2. Independent Claims 1, 8, 15⁵

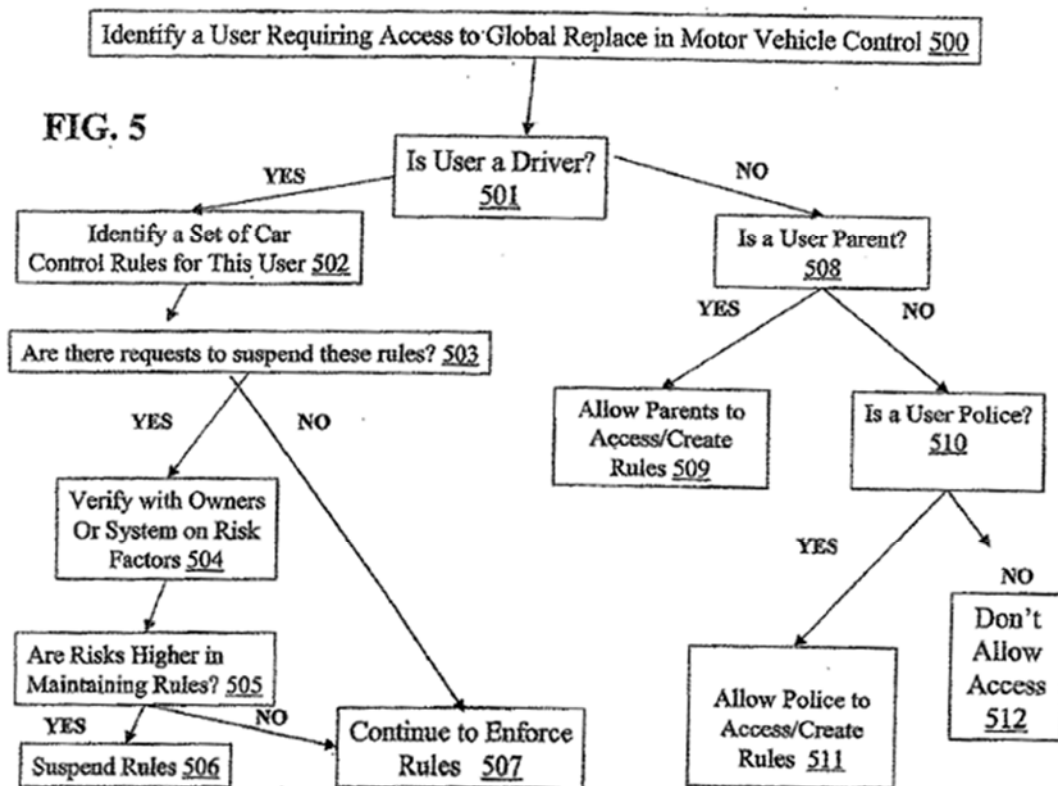
***[1.0]. A method, comprising:*⁶**

Gratz discloses “method steps for restricting a driver's operation of a motor

⁵ Appendix A includes a listing of all challenged claims and Appendix B includes a table comparing claims that are treated together.

⁶ Petitioner's analyses of the preambles are not an admission that any are limiting.

vehicle.” (Ex. 1018, [0017].) Gratz further depicts the method steps in Figure 5 as a flow diagram illustrating “the operation of a motor vehicle restriction control system.” (Ex. 1018, [0024]; *see also* Claim 18; Ex. 1003, ¶¶ 168-171.)



Ex. 1018, Fig. 5

[8.0]. A vehicle, comprising:

Gratz discloses “a system for restricting a driver’s operation of a motor vehicle.” (Ex. 1018, [0002]; Ex. 1003, ¶ 258.)

[15.0]. A tangible and non-transient computer readable medium comprising microprocessor executable instructions to perform

functions comprising:

Gratz discloses “a program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for restricting a driver’s operation of a motor vehicle.” (Ex. 1018, [0017]; *see also* Claim 19; Ex. 1003, ¶¶ 271-272.)

Gratz does not explicitly state that the executable instructions are “*microprocessor executable instructions*”⁷. However, as explained in the Rationale-to-Combine section, the combination of Gratz and Bosch teaches a microprocessor that executes instructions. (Ex. 1003, ¶¶ 164-165, 176.)

[1.1] (a) receiving, by a microprocessor executable vehicle control system,

[8.1] a microprocessor executable vehicle control system operable to: [8.2] receive

[15.1] (a) receiving

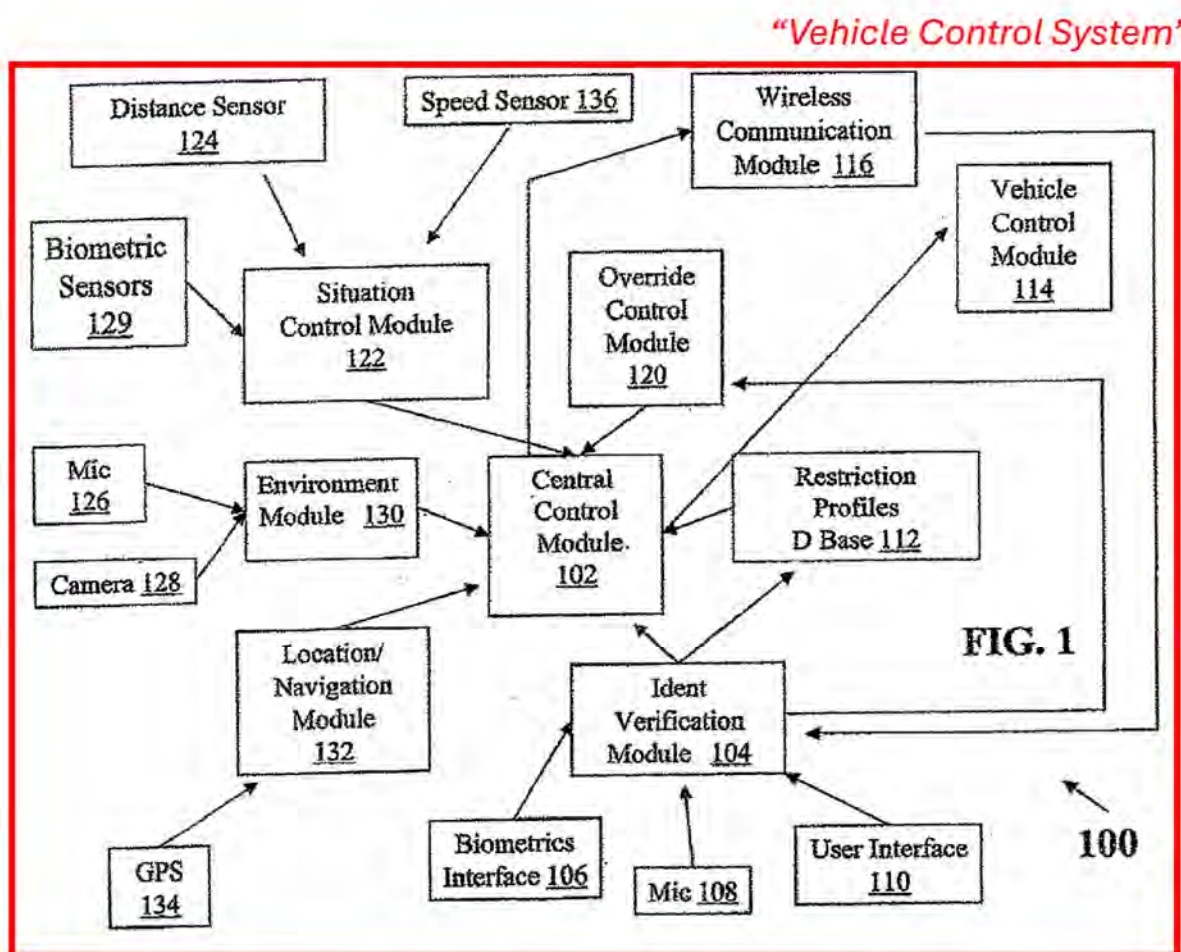
... a request from a vehicle occupant to perform a vehicle task, function or operation;

Gratz discloses a “motor vehicle restriction control system 100” that restricts a driver’s operation of a motor vehicle. (Ex. 1018, [0002], [0028].) The combination

⁷ All claim language from the ’186 Patent is italicized for identification purposes.

of Gratz and Bosch teaches “a microprocessor executable vehicle control system” as will now be discussed below. (Ex. 1003, ¶¶ 172-176.)

The system 100 (“vehicle control system”) includes a central control module/unit 102, an identification verification module 104, a restriction profile database 112, a situation control module 122, vehicle control module 114, and various other control modules and sensors to facilitate or restrict operation of the vehicle. (Ex. 1018, [0028].)



Ex. 1018, Fig. 1 (Annotated)

The system 100 “includes control and database functions that are implemented as software executed on the CPU” (central processing unit). (Ex. 1018, [0027]; Ex. 1003, ¶174-175.) A POSA would have understood that the CPU would have been implemented as a “*microprocessor*” as taught by Bosch. (Ex. 1050, 94; Ex. 1003, ¶¶ 174-176.) Therefore, the combination of Gratz and Bosch teaches a “*microprocessor executable vehicle control system[.]*” (Ex. 1003, ¶¶ 176-177.)

Gratz discloses that “[a] user of the owner's motor vehicle[] ... must identify himself before the motor vehicle can be used.” (Ex. 1018, [0037].) Gratz discloses a “*task, function or operation*” that can be requested by the user is starting the vehicle. (Ex. 1003, ¶¶ 178-180.)

The comparison module 208 instructs the task request module 212 to instruct the vehicle control module 114 to prevent the **vehicle from starting** if the vehicle is located at the owner's home and it is after 9 p[.]m. and before 8 a.m. (Ex. 1018, [0048].)

Gratz also discloses receiving a request from the driver to accelerate the vehicle, or operate the vehicle at high speed, which is another “*task, function or operation[.]*” (Ex. 1018, [0036], *see also* [0039]; Ex. 1003, ¶¶ 181-182.)

While Gratz’s description (quoted above) focuses on limiting vehicle use (including starting), and maintaining the vehicle below a speed limit, a POSA would

have understood that the driver requests these “*task[s], function[s] or operation[s]*”; otherwise, there is no reason to have a restriction. (Ex. 1003, ¶¶ 180, 183-184.) For example, a POSA would have understood that a user requests an engine start by actuating a key or pressing an engine start button and requests vehicle speed by depressing an accelerator pedal. (Ex. 1018, [0039]; Ex. 1003, ¶¶ 85-92, 180, 184; Ex. 1028, 98-99.)

In all of the above examples, Gratz’s “user” is the driver of the vehicle, i.e., “*a vehicle occupant.*” (Ex. 1003, ¶¶ 185.)

Accordingly, the combination of Gratz and Bosch teaches “*receiving, by a microprocessor executable vehicle control system [e.g., Gratz system 100 with Bosch’s microprocessor], a request from a vehicle occupant to perform a vehicle task, function or operation [e.g., a signal indicative of a request to use the vehicle, start the engine, or accelerate/increase vehicle speed].*” (Ex. 1003, ¶¶ 172-186, 259, 275-276.)

[1.2] (b) determining, by the microprocessor executable vehicle control system,

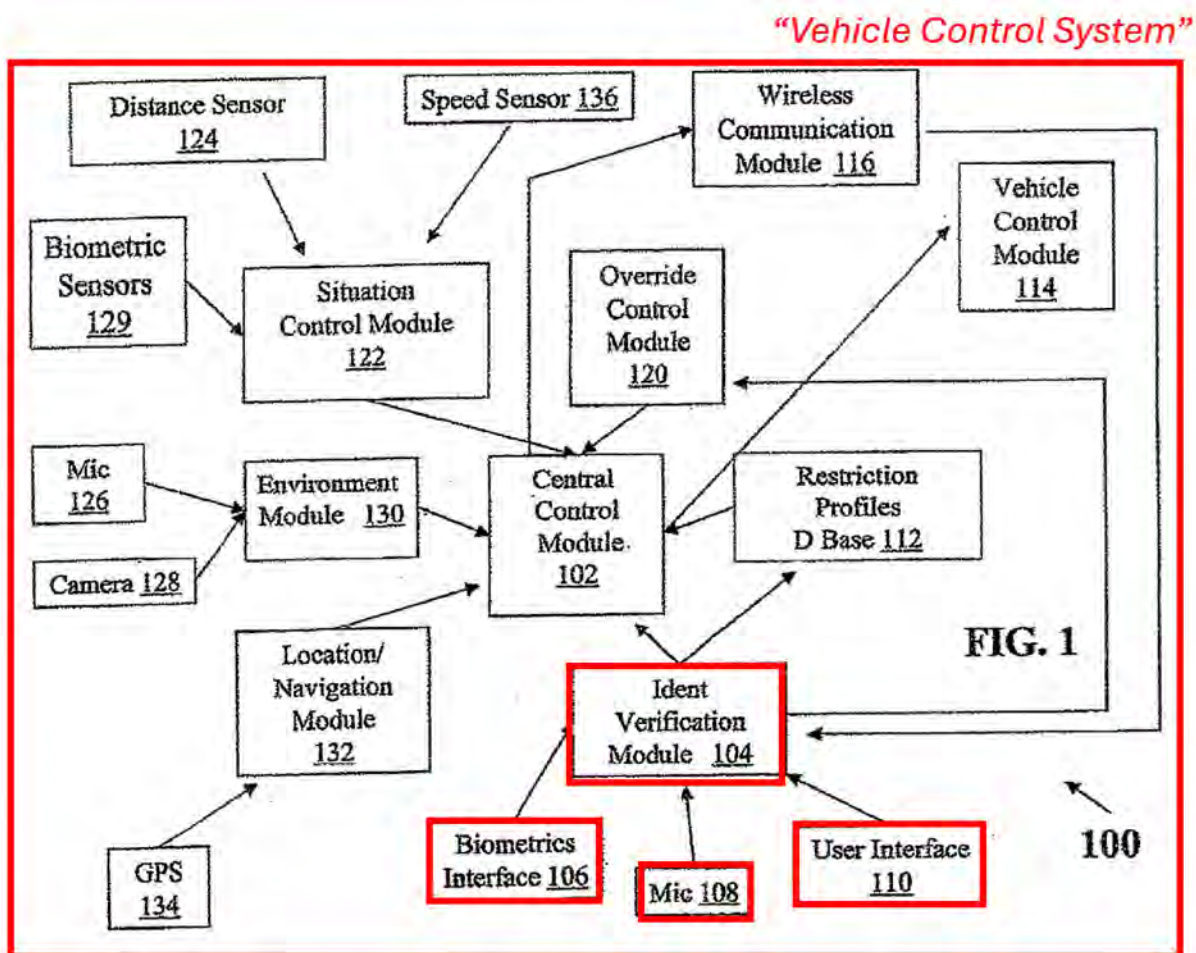
[8.3] determine

[15.3] (b) determining

... that the vehicle occupant has been authenticated successfully;

Gratz requires a user “identify himself before the motor vehicle can be used.”

(Ex. 1018, [0037].) “The user can identify himself via the user interface 110 by entering a user ID, via the biometric interface 106 by entering fingerprints, or via the microphone 108 by speaking a user ID.” (Ex. 1018, [0037].) As illustrated in Figure 1, the system 100 (“*vehicle control system*”) includes an identification verification module 104 that compares the input credentials to stored credentials to verify (“*authenticate*”) the received credentials. (Ex. 1018, [0028]; Ex. 1003, ¶¶ 187-190.)



Ex. 1018, Fig. 1 (Annotated)

Gratz discloses the restriction system 100, including the user interface, is

located within the vehicle (Ex. 1018, [0026]); therefore, the user is a “*vehicle occupant*” when authenticating. (Ex. 1003, ¶ 191.)

Accordingly, the combination of Gratz and Bosch teaches “*determining, by the microprocessor executable vehicle control system, that the vehicle occupant has been authenticated successfully* [e.g., by comparing a received user ID or biometric signature to a stored data to verify the identity of the user.]” (Ex. 1003, ¶¶ 187-192, 260-261, 278-279.)

[1.3] (c) accessing, by the microprocessor executable vehicle control system,

[8.4] access

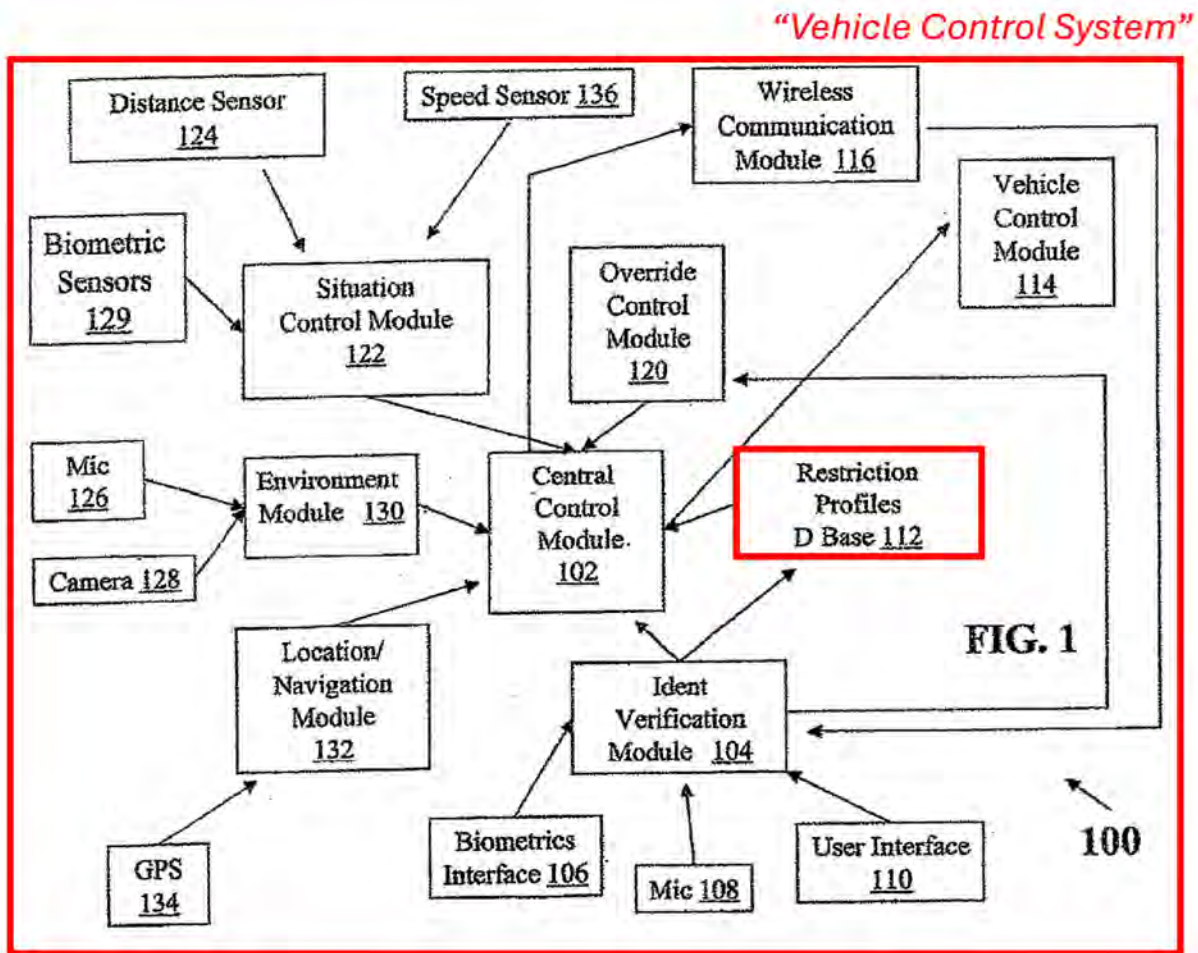
[15.4] (c) accessing

... an account for the vehicle occupant, the account defining rights and privileges of the user⁸ with respect to controlling a vehicle task, function or operation,

Petitioner construes the phrase “*rights and privileges*” as permissions. (See §V.C.) Gratz discloses the system 100 allows the vehicle owner to create “restriction profile[s] for ... children, or other users of the motor vehicle.” (Ex. 1018, [0036].) Gratz’s “restriction profiles” are “*accounts*” with each being specific to a registered

⁸ “[T]he user” lacks antecedent basis. Petitioner is interpreting “*the user*” as referring to the previously recited “*vehicle occupant*.”

user. The restriction profiles are stored in a database 112. (Ex. 1018, [0017], [0028]; Ex. 1003, ¶¶ 193-195.)



Ex. 1018, Fig.1 (Annotated)

The restriction profiles limit use of the vehicle to registered users and each profile may include additional restrictions/operating rules specific to that user. (Ex. 1018, [0036], *see also* [0037]; Ex. 1003, ¶ 196.)

The restrictions/rules that may be set for a user include maximum speed, hours of operation, minimum distance, road type, etc. (Ex. 1018, [0011], [0015], [0036],

[0048].) A POSA would have understood these restrictions as being permissions of the user with regard to driving the vehicle. (Ex. 1003, ¶ 196.) Therefore, the restriction profiles “*defin[e] rights and privileges of the user with respect to controlling a vehicle task, function or operation*” of vehicle speed, hours of vehicle operation, following distance, and road type. (Ex. 1018, [0011], [0015], [0036], [0048]; Ex. 1003, ¶ 197.)

The system 100 retrieves (“*accesses*”) the restriction profile (“*account*”) once the user identifies himself with the vehicle. (Ex. 1018, [0037], [0047].) For example, the rules/identity module 402 “retrieves from the restriction profile database 112 rules and restrictions associated with the particular user[.]” (Ex. 1018, [0047]; Ex. 1003, ¶¶ 198-199.)

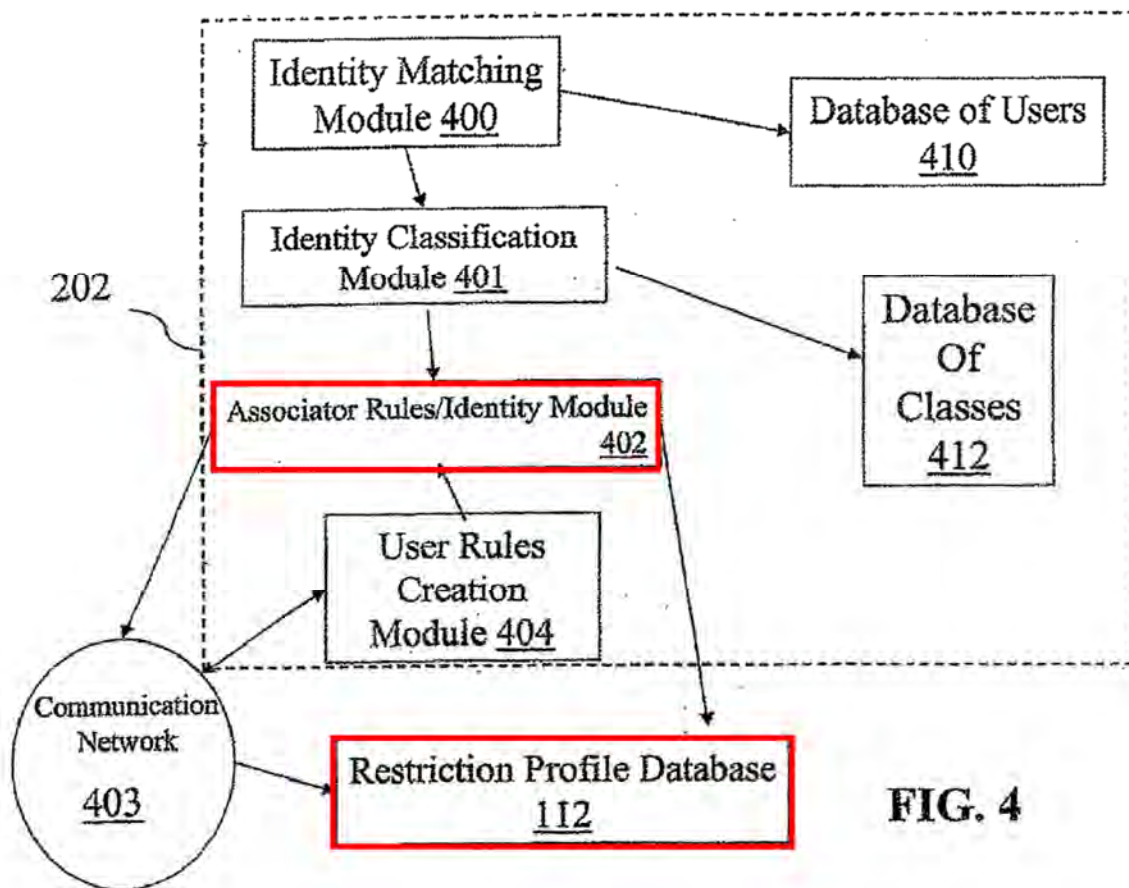


FIG. 4

Ex. 1018, Fig. 4 (Annotated)

Accordingly, the combination of Gratz and Bosch teaches “accessing, by the microprocessor executable vehicle control system, an account for the vehicle occupant, the account defining rights and privileges of the user with respect to controlling a vehicle task, function or operation [e.g., by retrieving the rules and restrictions associated with the particular user from the restriction profile database 112.]” (Ex. 1003, ¶¶ 194-200, 262-263, 280-281.)

[1.4]/[8.5]/[15.2] wherein the vehicle task, function or operation is one or more of the following: monitoring, controlling, and/or

operating ... an engine control unit (“ECU”), ... vehicle engine ...;

Gratz discloses that the restriction profiles (“*account[s]*”) define “*rights and privileges*” for “*controlling*” a “*vehicle engine.*” As discussed in limitation [1.3], the vehicle owner can set a “maximum operating speed” as a restriction/rule in a user’s restriction profile. (Ex. 1018, [0036]; Ex. 1003, ¶¶ 201-202.) The control system 100 prevents the user from exceeding the set maximum speed by limiting “gas flow to the fuel injectors, which limits the vehicle’s maximum speed.” (Ex. 1018, [0039]; Ex. 1003, ¶ 203.)

Fuel injectors are components of an engine. (Ex. 1003, ¶204; Ex. 1050, 682.) Controlling a component of an engine (fuel injectors) is also controlling the “*vehicle engine*” as claimed. (Ex. 1003, ¶¶ 204-205.)

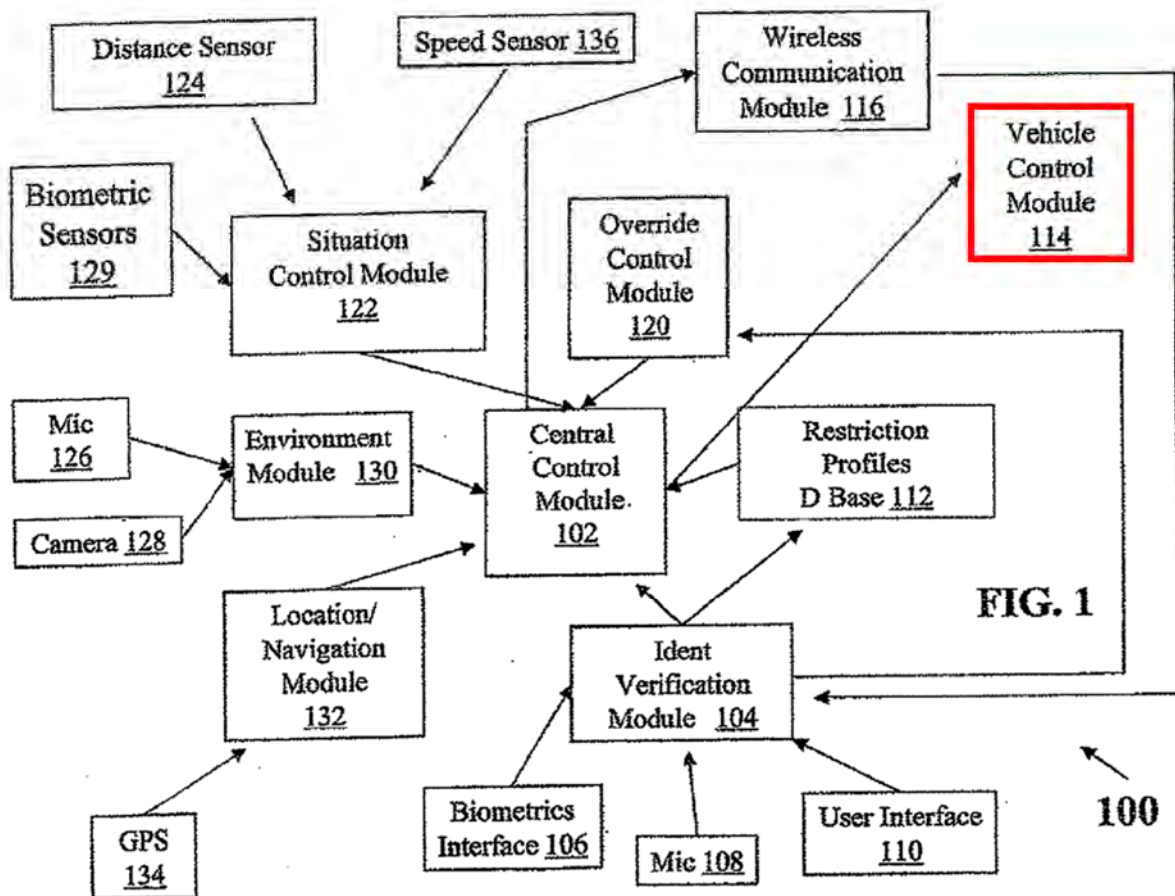
Additionally, Gratz’s restriction/operating rule limiting vehicle start times⁹ (e.g., between 8 a.m. and 9 p.m.) discloses “*rights and privileges*” for “*controlling*” the “*vehicle engine.*” (Ex. 1018, [0036], [0048]; Ex. 1003, ¶¶ 205-206, 208.) Gratz uses an “ignition disabling means” to prevent the vehicle from starting outside the proscribed window set in the restriction profile. (Ex. 1018, [0012].) An “ignition” is

⁹ A POSA would have understood Gratz’s disclosure in paragraph 48 of preventing the “vehicle from starting” teaches preventing the “engine of the vehicle from starting.” (Ex. 1003, ¶ 207.)

the component of the engine system used to start the engine (Ex. 1016, 6:31-56; Ex. 1003, ¶¶ 90-92, 207).

Gratz's further discloses, "wherein the vehicle task, function or operation is one or more of the following: monitoring, controlling, and/or operating an engine control unit ('ECU')." (Ex. 1003, ¶ 209.)

A vehicle control module (VCM) 114 of the restriction system 100 controls the actuators, e.g., engine, of the vehicle. (Ex. 1018, [0028], [0039]; Ex. 1003, ¶¶ 210-211.)



Ex. 1018, Fig. 1 (Annotated)

The VCM 114 prevents the driver from operating the vehicle above the set maximum speed such as by restricting “gas flow to the fuel injectors” or using a governor, which is part of the VCM 114. (Ex. 1018, [0039]; Ex. 1003, ¶ 211.) A POSA would have considered a control module/unit, e.g., VCM 114, that controls fuel injectors or a speed governor to be an “*engine control unit*” as it is controlling operation of the engine to limit vehicle speed. (Ex. 1003, ¶¶ 212-213.)

Accordingly, the combination of Gratz and Bosch teaches that “*the vehicle task, function or operation is ... monitoring, controlling, and/or operating an engine control unit (‘ECU’) ... [and] vehicle engine [e.g., disabling the ignition to prevent starting of the engine and controlling the engine to limit vehicle speed by limiting gas flow or using a speed governor.]*” (Ex. 1003, ¶¶ 201-215, 264, 277.)

[1.5] (d) determining, by the microprocessor executable vehicle control system,

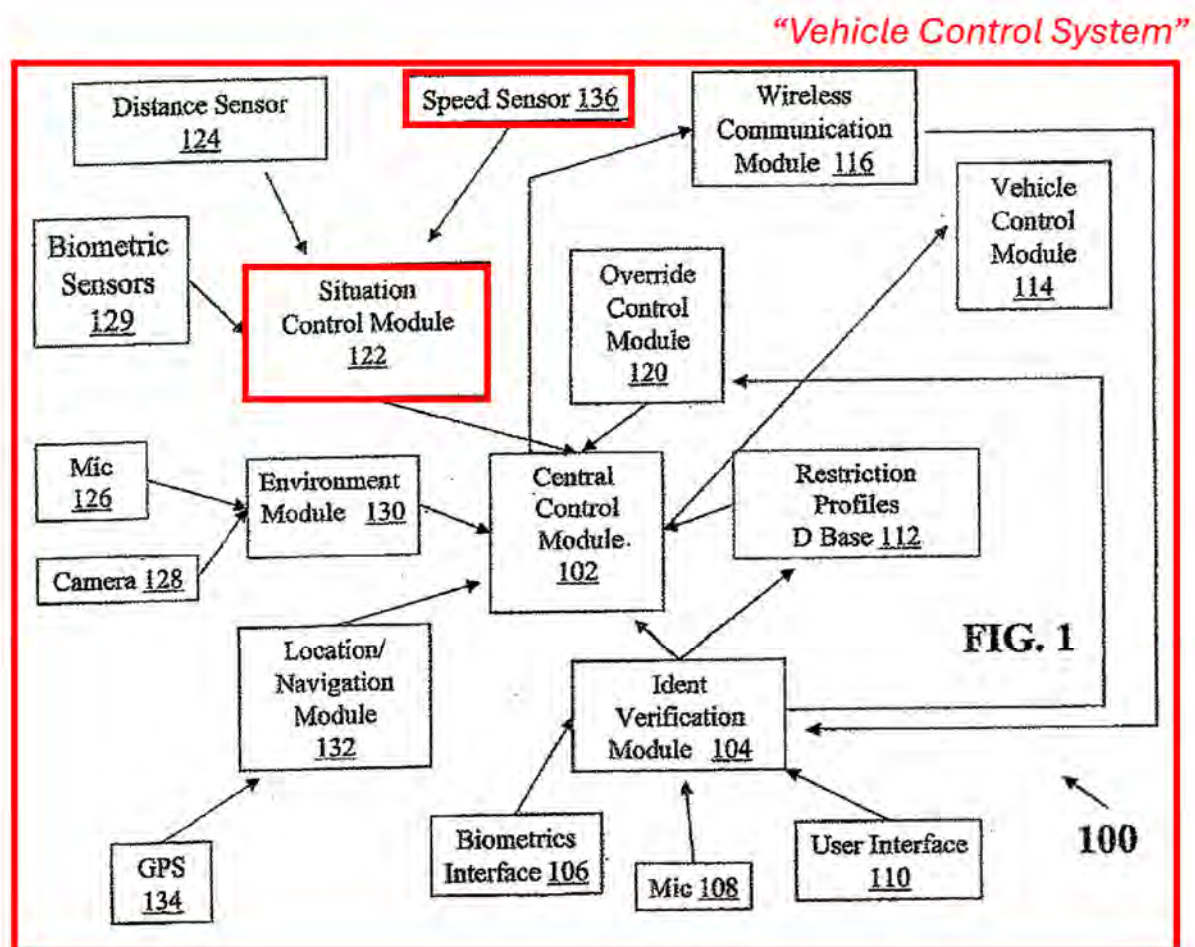
[8.6] determine

[15.5] (d) determining

... at least one of an area and/or zone occupied by the vehicle occupant and an operating state of the vehicle; and

Petitioner construes this claim limitation as “at least one of: (1) an area occupied by the vehicle occupant, (2) a zone occupied by the vehicle occupant, and (3) an operating state of the vehicle.” (See §V.B.)

Gratz discloses the system 100 (“*vehicle control system*”) includes a “situation control module 122 [that] receives speed information from the speed sensor 136.” (Ex. 1018, [0039]; Ex. 1003, ¶ 218.) A POSA would have understood vehicle speed to be an “*operating state of the vehicle*” because a vehicle operating state refers to a vehicle condition or mode in which the vehicle is operating at any given time, e.g., engine on/off, gear selection, and vehicle speed. (Ex. 1003, ¶¶ 217-219.) Gratz discloses “*determining*” the vehicle speed (“*operating state*”) using a speed sensor 136 and a situation control module 122 of the system 100. (Ex. 1018, [0030], [0039]; Ex. 1003, ¶¶ 216-220, 265-266, 282-283.)

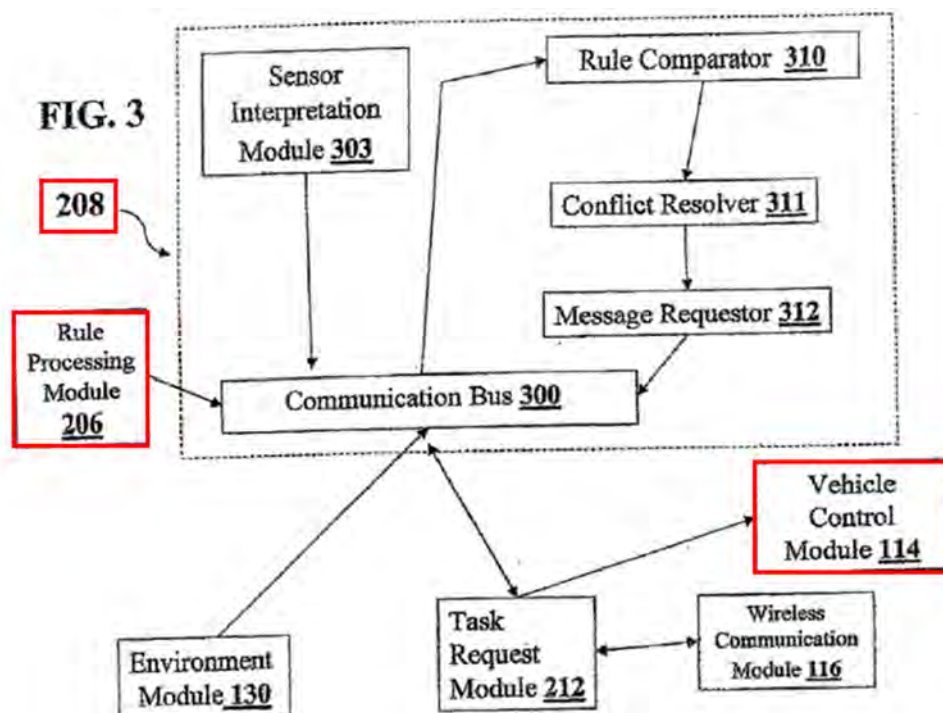


Ex. 1018, Fig. 1 (Annotated)

[1.6]/[8.7]/[15.6] based upon the account corresponding to the vehicle occupant and the at least one of an area and/or zone occupied by the vehicle occupant and an operating state of the vehicle, apply[ing], by the microprocessor executable vehicle control system,] the following rules:

Gratz discloses “applying rules” based on the restriction profile (“account”) and vehicle speed (“operating state of the vehicle.”) (Ex. 1003, ¶ 221.) As discussed above, the driver can request acceleration of the vehicle. When this occurs, the

system 100 compares (via comparison module 208) the measured vehicle speed with the restrictions/operating rules (“*rights and privileges*”) defined in a restriction profile (“*account*”) and then permits or denies the request depending upon whether the request would violate the rules, i.e., the maximum operating speed. (Ex. 1018, [0035], [0038]-[0039], [0040]; Ex. 1003, ¶¶ 222-224.)



Ex. 1018, Fig. 3 (Annotated)

Accordingly, the combination of Gratz and Bosch teaches “*based upon the account corresponding to the vehicle occupant [e.g., restriction profile] and the at least one of an area and/or zone occupied by the vehicle occupant and an operating state of the vehicle [e.g., vehicle speed], applying, by the microprocessor executable vehicle control system [e.g., system 100 with CPU implemented as a*

microprocessor], *the following rules[.]*” (Ex. 1003, ¶¶ 221-225, 267-268, 284-285.)

[1.6.i]/[8.7.i]/[15.6.i] (i) when the account permits the vehicle occupant to perform the requested vehicle task, function or operation, performing or causing to be performed the vehicle task, function or operation; and

These claim limitations are closely related to the previous limitations [1.6]/[8.7]/[15.5] and the above analysis is incorporated herein and vice versa.

In one example of applying rules, the parent enters a “maximum operating speed” in the restriction profile of a teenage driver. (Ex. 1018, [0036].) During operation of the vehicle, the “situation control module 122 receives speed information from the speed sensor 136” (“*operating state of the vehicle*”). (Ex. 1018, [0039].) Then, “[t]he comparison module 208 instructs the task request module 212 to instruct the vehicle control module 114 to limit the vehicle’s maximum speed according to the particular road that the user is driving on.” (*Id.*; Ex. 1003, ¶¶ 226, 269, 286.)

While Gratz’s above example focuses on limiting vehicle speed to the set maximum speed, a POSA would have recognized that the inverse is also disclosed. (Ex. 1003, ¶ 227.) That is, a POSA would have understood that the control module 114 would allow the engine to accelerate the vehicle when the vehicle speed is less than the maximum speed, e.g., 55 mph. (Ex. 1018, [0039]; Ex. 1003, ¶¶ 227-228.)

Accordingly, the combination of Gratz and Bosch teaches “*when the account permits the vehicle occupant to perform the requested vehicle task, function or operation, performing or causing to be performed the vehicle task, function or operation* [e.g., permitting the driver to drive at a requested vehicle speed that is less than a maximum speed set for the driver in the restriction profile.]” (Ex. 1003, ¶¶ 226-229, 269, 286.)

[1.6.ii]/[8.7.ii]/[15.6.ii] (ii) when the account does not permit the vehicle occupant to perform the requested vehicle task, function or operation, not performing or causing to be performed the vehicle task, function or operation.

As discussed in limitation [1.6.i], Gratz discloses the system 100 prevents an increase in vehicle speed when the restriction profile defines a maximum vehicle speed and the current vehicle speed is at or above the limit. (Ex. 1018, [0036], [0039]; Ex. 1003, ¶¶ 230-231, 269, 286.) Gratz discloses two ways of “*not performing*” the requested vehicle speed increase, including controlling the fuel injectors to inject less fuel and a governor. (Ex. 1018, [0006], [0039]; Ex. 1003, ¶¶ 232-233, 269, 286.)

Therefore, the combination of Gratz and Bosch teaches that “*when the account does not permit the vehicle occupant to perform the requested vehicle task, function or operation* [of operating the vehicle above a specified vehicle speed], *not*

performing or causing to be performed the vehicle task, function or operation [of operating the vehicle above a set maximum speed]” e.g., by controlling the engine to produce less power. (Ex. 1003, ¶¶ 230-234, 269, 286.)

3. Dependent Claims 5 and 19

[5.0] The method of claim 1,

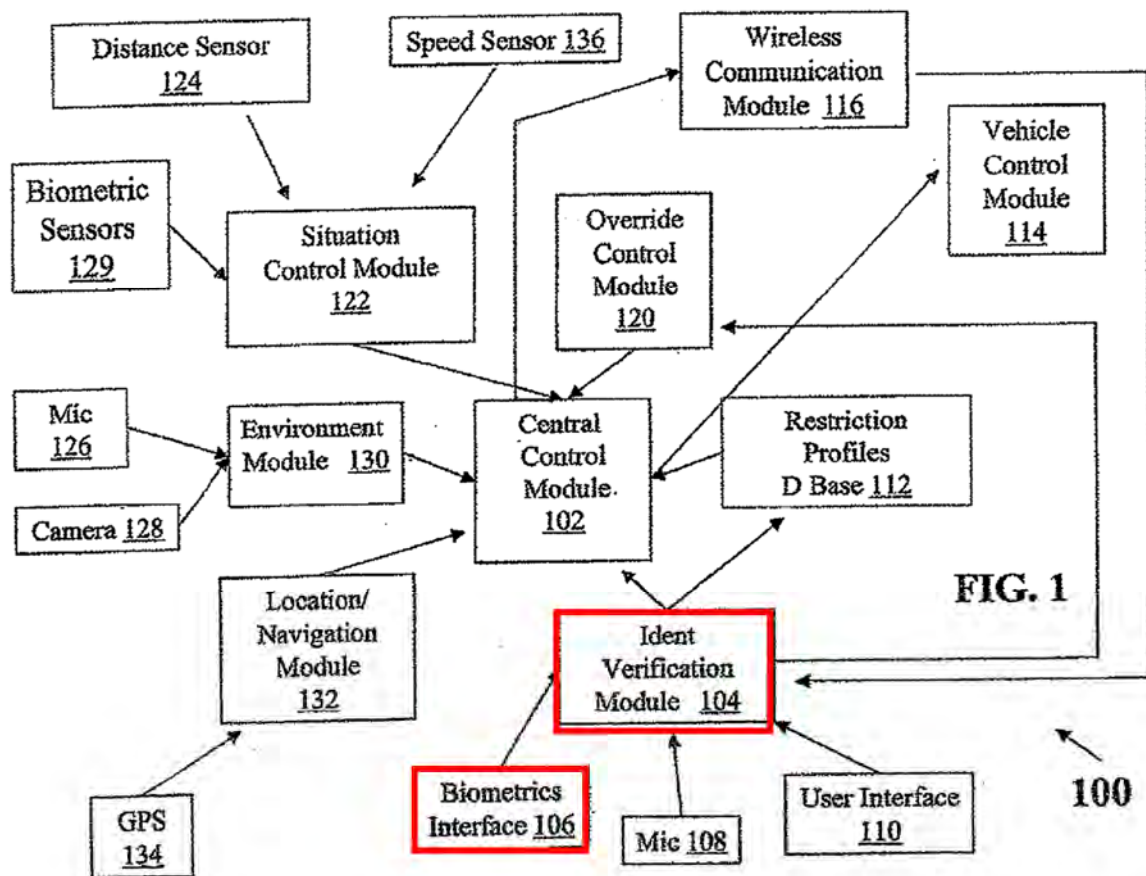
[19.0] The computer readable medium of claim 15,

... wherein a different authentication procedure is used for the vehicle occupant when requesting a first set of vehicle tasks, functions, or operations than when requesting a second set of vehicle tasks, functions, or operations¹⁰

Gratz discloses the owner can request a first set of tasks including (i) creating a restriction profile for another user and (ii) editing a restriction profile. (Ex. 1018, [0036].) To do so, the owner must first authenticate himself by “entering an administrative or superuser password into the identification verification module 104 via the user interface 110[.]” (*Id.*; Ex. 1003, ¶¶ 237-239.) The user interface 110 is located within the vehicle; therefore, the owner is a “*vehicle occupant*[.]” “The ... restriction control system ... is implemented using a computer mounted on the

¹⁰ The first and second sets of vehicle tasks, functions, or operations are being interpreted as subsets of the previously recited, “*vehicle task, function or operation*” of the independent claims.

1003, ¶¶ 240-241.)



Ex. 1018, Fig. 1 (Annotated)

Accordingly, the combination of Gratz and Bosch teaches “*wherein a different authentication procedure is used for the vehicle occupant [owner of the motor vehicle] when requesting a first set of vehicle tasks, functions, or operations [e.g., entering an administrative or superuser password into ID verification module before creating or editing a restriction profile for another user], than when requesting a second set of vehicle tasks, functions, or operations [e.g., fingerprint identification before vehicle can be used, starting the engine, playing the radio, etc.]*” (Ex. 1003,

¶¶ 237-242, 289-290.)

[5.1] wherein the task, function, or operation is monitoring, controlling, and/or operation a vehicle sensor,

Claim 1 twice recites “*task, function, or operation*” (limitations [1.1]/[1.3]) and claim [5.0] recites “*a first set of vehicle tasks, functions, or operations*” and “*a second set of vehicle tasks, functions, or operations[.]*” Claim 5 is ambiguous¹¹ regarding which of the four prior recitations of “*task, function, or operation*” is being further limited by limitation [5.1]. At its narrowest, limitation [5.1] would apply to all four prior recitations. For completeness, Petitioner analyzes the narrowest possible reading of claim 5.¹²

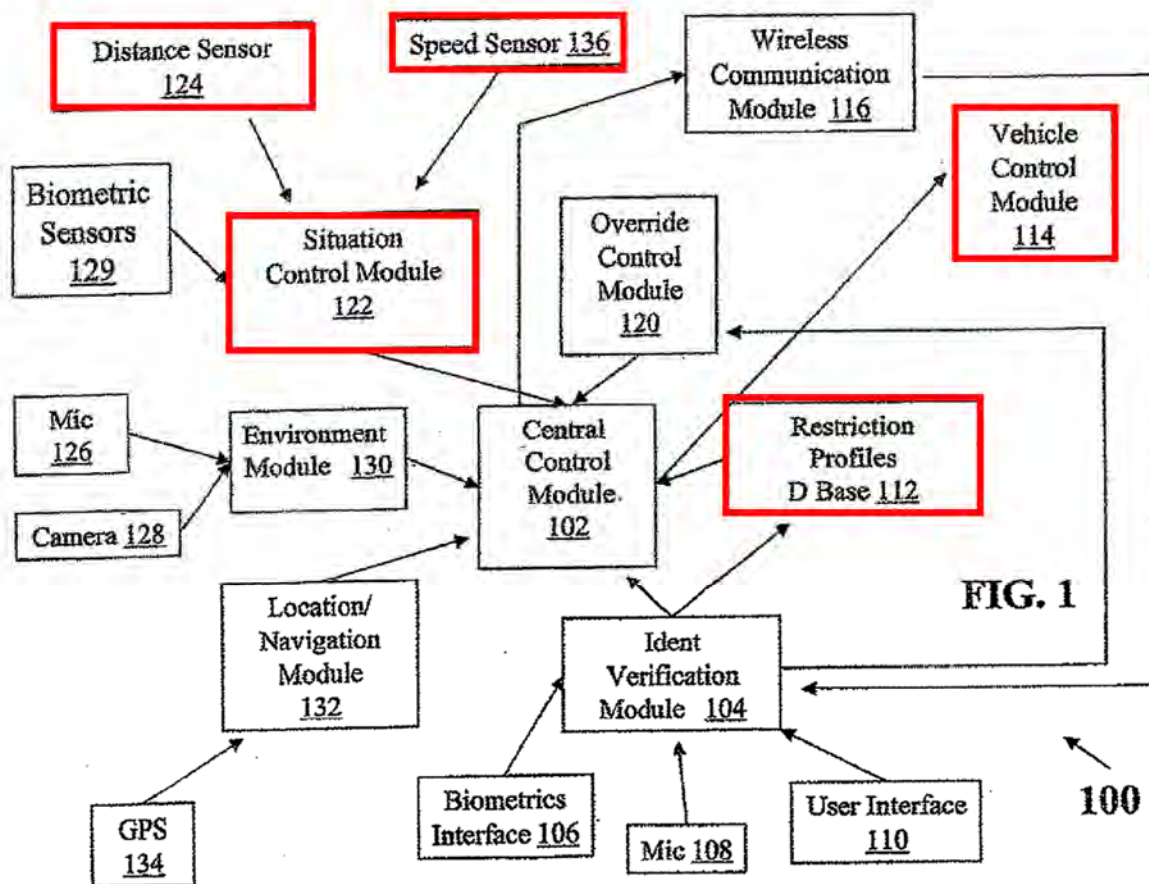
Regarding the “*first set of tasks, functions, or operations,*” the touch screen used by the owner to enter the administrative password includes a vehicle sensor (Ex. 1018, [0026]), e.g., a capacitance sensor, that is monitored or controlled when the owner enters his or her credentials. (Ex. 1003, ¶¶ 110-112, 243.) Therefore, “*the task, function, or operation is monitoring, controlling, and/or operation a vehicle*

¹¹ The Board is not precluded from adjudicating a prior-art challenge of claim 5. *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 801, 812-814 (Fed. Cir. 2021).

¹² Petitioner does not submit that this is the correct construction of claim 5 nor that claim 5 is definite.

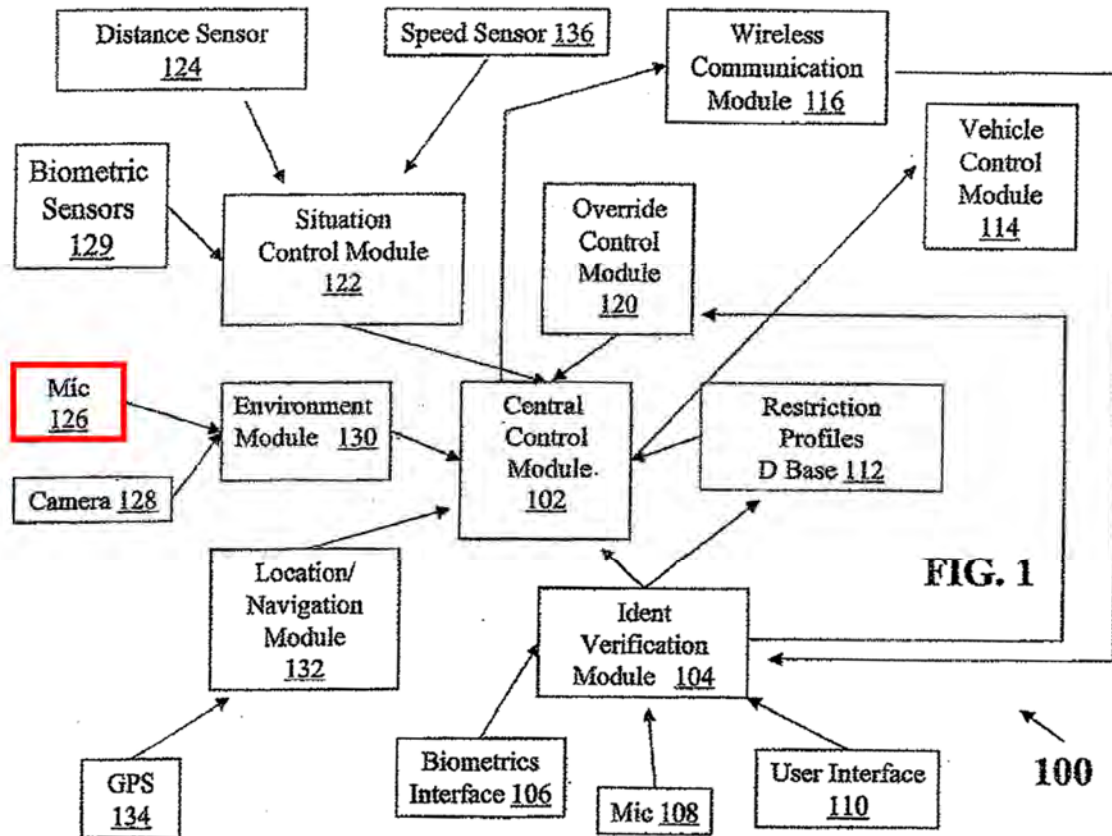
sensor [e.g., touch screen].” (Ex. 1003, ¶ 243.)

Regarding the “*second set of tasks, functions, or operations*” and the “*task, function, or operation*” of claim 1, the above-identified task of driving the vehicle is “*monitoring, controlling, and/or operati[ng]*” a “*vehicle sensor[.]*” Gratz discloses a speed sensor 136. (Ex. 1018, [0026], [0030].) Gratz further discloses a distance sensor 124. (*Id.*) The restriction system 100 “*monitor[s]*” the speed sensor 136 to ensure the vehicle speed does not exceed the maximum speed set in the restriction profile (Ex. 1018, [0039]) and monitors the distance sensor 124 to maintain the minimum distance restriction (Ex. 1018, [0015], [0030], [0038], [0041]; Ex. 1003, ¶¶ 244-245.)



Ex. 1018, Fig. 1 (Annotated)

Gratz further discloses sensors for external conditions, e.g., wet or dry pavement (Ex. 1018, [0038], [0040]) and internal conditions, e.g., a microphone 126 for detecting a loud radio (Ex. 1018, [0040]). The system 100 monitors data from these sensors when the driver is requesting the second set of tasks. (Ex. 1018, [0040]; Ex. 1003, ¶¶ 246-249.)



Ex. 1018, Fig. 1 (Annotated)

Accordingly, the combination of Gratz and Bosch teaches “*wherein the task, function, or operation is monitoring, controlling, and/or operation a vehicle sensor [e.g., speed sensor 136, distance sensor 124, microphone 126].*” (Ex. 1003, ¶¶ 243-249.)

[5.2] the vehicle sensor being one or more of: ... nearby object sensing system, ... vehicle control system sensor, ... ambient (outdoor) weather reading sensor, ... road condition sensor, ... ranging sensor, ... microphone....

Regarding the first set, a POSA also would have understood Gratz’s touch

screen as being a “*vehicle control system sensor[.]*” (Ex. 1003, ¶ 251.) Gratz discloses the touch screen is part of the restriction control system 100. (Ex. 1018, [0026].) As discussed above, the touch screen includes sensors for detecting a user’s finger, which provide inputs for controlling the restriction system 100. Therefore, the touch screen is one of the sensors of the system 100, i.e., is a “*vehicle control system sensor[.]*” (Ex. 1003, ¶ 251.)

A POSA would have further understood the touch screen is a “nearby object sensing system.” (Ex. 1003, ¶ 250.) Touch screens included sensors that determined the presence of a finger (nearby object) near selectable icons in order to register a user input to the touch screen. (Ex. 1003, ¶¶ 110-111, 250; Ex. 1074, Abstract.) Therefore, Gratz discloses a “nearby object sensor system.” (*Id.*)

Regarding the second set, the restriction control system 100 and speed sensor 136 disclose a “*vehicle control system sensor[.]*” The restriction system 100 is a “*vehicle control system*” and the speed sensor 136 is a component thereof. The speed sensor 136 outputs data to the situation control module 122 of the system 100 that is used to ensure a set maximum speed is not exceeded. (Ex. 1018, [0039]; Ex. 1003, ¶ 252.)

Additionally, Gratz’s distance sensor 124 is a “*ranging sensor.*” The distance sensor 124 senses other vehicles to determine “how far the vehicle is from another vehicle[.]” which is what a “*ranging sensor*” does. (Ex. 1018, [0041]; Ex. 1003, ¶

253.) Gratz’s sensor that senses wet/dry road conditions is both an “*ambient (outdoor) weather reading sensor*” and a “*road condition sensor*.” (Ex. 1018, [0040]; Ex. 1003, ¶¶ 254-255.) Gratz’s microphone 126 (which senses “passengers talking” and radio volume) is a “*microphone*.” (Ex. 1018, [0040], [0052]-[0053]; Ex. 1003, ¶ 256.)

Accordingly, the combination of Gratz and Bosch teaches “*the vehicle sensor being one or more of: [a] vehicle control system sensor [restriction control system 100 with speed sensor 136], ambient (outdoor) weather reading sensor [e.g., wet/dry sensor], road condition sensor [e.g., wet/dry sensor], ranging sensor [e.g., distance sensor 124] [or] microphone [e.g., microphone 126].*” (Ex. 1003, ¶¶ 250-256.)

B. Ground 2: Claims 6-7, 12-14, and 20-21 are Unpatentable as Obvious Over Gratz, Bosch, and Rector

1. Rationale to Combine

It would have been obvious to a POSA at the time of the alleged invention to combine the restriction control system 100 disclosed in the Gratz/Bosch combination with the user-created settings disclosed in Rector. (Ex. 1003, ¶ 291.) Indeed, Gratz discloses that it “may occur to those of ordinary skill in the art” to make “[v]ariations, modifications, and other implementations” to the invention “without departing from [its] spirit and scope” (Ex. 1018, [0057].) A POSA would have understood that Gratz, Bosch, and Rector are complementary technologies all from

the same field—automotive systems that include controllers or electronic control units for performing vehicle functions. (Ex. 1003, ¶¶ 291-292.)

Gratz, Bosch, and Rector are analogous prior art. Gratz discloses, “a system for restricting a driver’s operation of a motor vehicle.” (Ex. 1018, [0002]; Ex. 1003, ¶ 292.) As in Ground 1, Gratz’s system 100 allows a vehicle owner to create “at least one restriction profile defining for the driver at least one restriction of the operation [of] the motor vehicle, and a motor vehicle controlling module for restricting the operation of the motor vehicle according to the at least one restriction” (Ex. 1018, [0009] Ex. 1003, ¶ 292.) Rector similarly discloses “a means for identifying a driver of a vehicle in order to place restrictions or otherwise create settings for the driver.” (Ex. 1017, [0007]; Ex. 1003, ¶ 293.) Rector also discloses a smart vehicle 100 that identifies a driver by matching the driver’s unique identifier (received from the driver’s cell phone) with accounts stored in a database 134. (Ex. 1017, [0030]-[0031]; Ex. 1003, ¶ 293.) Database 134 contains settings for each unique identifier (driver) that may include restrictions, such as a maximum allowed vehicle speed, and personal settings, such as seating position. (Ex. 1017, [0031]-[0032]; Ex. 1003, ¶ 293.)

Gratz and Rector also address the same problem of teenage-driver safety by enabling parents to limit the speed of the vehicle for their teenage drivers, as well as set other limitations. (Ex. 1017, [0004]-[0007], [0034], [0042], [0045]; Ex. 1018,

[0004], [0008]-[0009], [0017], [0036]; Ex. 1003, ¶ 294.)

Gratz is silent regarding whether or not a user can add personalized settings, e.g., seating position, to his or her restriction profile. Rector, however, explicitly discloses a driver can add driver-created settings on the setting server 130, in addition to the restriction settings created by the controlling authority. (Ex. 1017, [0031]; Ex. 1003, ¶ 295.)

It would have been obvious to add the driver-created settings of Rector to the restriction profiles of Gratz to add personal settings, e.g., seating position, programmed radio stations, etc., for each restriction profile (“*account*”) so that the vehicle automatically customizes to the settings set by the driver at KeyON. (Ex. 1003, ¶ 296.)

A POSA would have understood how to add the driver-created settings of Rector to the restriction profiles of Gratz, as it is merely a software modification that requires adding data fields to Gratz’s profile database 112 which stores the restriction profiles. (Ex. 1003, ¶ 297.)

A POSA would have been motivated to add the driver-created settings taught in Rector to the restriction profiles of Gratz to further customize the vehicle based on the driver. (Ex. 1003, ¶ 298.) Including personal settings, for example, removes the annoyance of having to reposition the driver seat after a driver change. It also automatically sets the radio preset stations enabling easier operation of the radio.

(*Id.*) This not only improves each driver's experience, but also improves safety (an objective of both Gratz and Rector) because it is less distracting to toggle through preset stations than to use the tuning knob/button to find desired stations while driving, and it is safer to have the vehicle configured to the driver's preferences automatically as opposed to the driver, for example, making such adjustments while driving. (*Id.*)

Furthermore, a POSA would have been particularly motivated to add driver-created settings taught by Rector to the restriction profiles (as opposed to some other location) because of Gratz's authentication sequence. (Ex. 1003, ¶ 299.) In Gratz, the driver must first "identify himself via the user interface 110" before he can use the vehicle. (Ex. 1018, [0037].) Once the driver successfully identifies himself, the system 100 retrieves the restriction profile and permits use of the vehicle. (*Id.*) Since this will typically occur immediately upon entry into the vehicle, it logically flows to store the driver-created settings with the restriction profile as taught by Rector (Ex. 1017, [0031]) so that the driver-created customizations are implemented as soon as the driver is able to use the vehicle. For example, a POSA would have understood the benefits of having the seat move to the pre-set position as soon as the driver is authenticated so that the vehicle is immediately ready to be driven. (Ex. 1003, ¶ 299.)

A POSA would have been particularly motivated to look to Rector given similarities to Gratz as both Gratz and Rector have databases that store driver

accounts with restrictions. (Ex. 1017, [0030]-[0032]; Ex. 1018, [0009], [0017], [0036]-[0037]; Ex. 1003, ¶ 300.) Rector improves the functionality of Gratz's restriction profiles ("*accounts*") by disclosing to also store driver-created settings ("*personal settings*") for each "*account*." Therefore, a POSA reading Rector would have understood that the database 112 of Gratz could also store accounts with both safety settings (restrictions) and driver-created settings. Furthermore, from Rector, a POSA would have understood that it was desirable to provide both. (Ex. 1003, ¶ 300.) Indeed, Rector explicitly states, "[w]hat is needed is a means for identifying a driver of a vehicle in order to place restrictions or otherwise create settings for the driver." (Ex. 1017, [0007].)

Adding the driver-created settings of Rector to Gratz's restriction profile is merely the combination of prior-art elements (safety restrictions and driver-created settings) according to known methods. (Ex. 1003, ¶ 301.) Indeed, Rector already explicitly teaches an account that includes driver restrictions and driver-created settings thus showing a POSA that these two types of user data can be predictably combined in a single account. (Ex. 1017, [0031].) From this explicit teaching of Rector, a POSA would have known how and why to add personal settings to the restriction profiles of Gratz for the reasons discussed above. (Ex. 1003, ¶ 301.) Indeed, in combination, the restrictions/operating rules of Gratz and the driver-created settings function the same together as they do separately. (*Id.*) Therefore, it

would have been obvious to add the driver-created settings of Rector to the restriction profiles of Gratz. (Ex. 1003, ¶ 302.)

It also would have been obvious to have radio-volume restrictions in the restriction profiles of Gratz. (Ex. 1003, ¶ 303.) Gratz recognizes safety issues related to the “radio playing too loudly” because it is “distracting [to] the driver[.]” (Ex. 1018, [0040].) Gratz describes radio volume as being an example of “internal conditions” used to “determine[] how the particular function restrictions/operating rules are applied” rather than being a restriction stored in the restriction profile. (*Id.*; Ex. 1003, ¶ 303.) That is, rather than directly limiting radio volume to mitigate distraction, Gratz will enforce other restrictions differently, such as reducing the speed limit, when the radio is too loud to mitigate the distraction. (Ex. 1018, [0039]-[0040]; Ex. 1003, ¶ 303.)

Unlike Gratz, Rector takes a direct approach that prevents the radio volume from becoming too loud in the first place by setting a maximum volume. (Ex. 1017, [0031], [0033].) A POSA would have recognized Rector’s direct approach as an improvement to Gratz’s indirect approach by completely eliminating the distraction of excessive volume. As such, a POSA would have been motivated to add a radio volume limit to the restriction profile of Gratz as taught in Rector. (Ex. 1003, ¶ 304.)

Adding a radio volume limit to the restriction profile of Gratz was well within the level of ordinary skill as of the effective filing date of the ’186 Patent. (Ex. 1003,

¶ 305.) Gratz already discloses a base system (e.g., restriction system 100 with restriction profiles) that can determine radio volume. All that is needed to limit radio volume with the restriction system 100 is to add the option of an additional restriction/operating rule to limit radio volume to the existing restriction profiles of Gratz. (*Id.*) This is merely a software modification that requires adding data fields to the profile database 112 so that the controlling authority or parent can set a radio volume limit, much like the speed limit already present, and adding software to prevent the radio volume from exceeding the set limit. (*Id.*) Therefore, adding the radio volume limit of Rector to the restriction profile of Gratz would have predictably resulted in eliminating excessive volume as a driver distraction and would have been obvious. (*Id.*)

2. Dependent Claims 6-7, 12-14, and 20-21

[6.0] The method of claim 1,

[20.0] The computer readable medium of claim 15,

... wherein the account comprises rights and privileges for the vehicle occupant with respect to a vehicle task, function or operation¹³, security and/or authentication requirements and/or credentials for the vehicle occupant, and personal settings of the

¹³ Petitioner interprets “a vehicle task, function or operation” as “the vehicle task, function or operation” for antecedent basis.

vehicle occupant and

As discussed above in limitation [1.3] of Ground 1, Gratz discloses “*wherein the account comprises rights and privileges for the vehicle occupant with respect to a vehicle task, function or operation,*” e.g., starting the engine or operating the vehicle to increase or decrease vehicle speed. (Ex. 1003, ¶¶ 193-200, 306-309.)

Gratz’s restriction profiles (“*accounts*”) also comprise “*security and/or authentication requirements and/or credentials for the vehicle occupant*” such as a user password (e.g., a “*credential[]*”), fingerprints (e.g., “*authentication requirement*”), and voice as discussed in limitation [1.2]. (Ex. 1018, [0037]; Ex. 1003, ¶¶ 187-192, 310.)

Gratz does not expressly disclose “*personal settings.*” Rector, however, discloses both user restrictions and driver-created settings (“*personal settings of the vehicle occupant*”) that are stored in a common database. (Ex. 1003, ¶¶ 311-312.) Rector discloses “**driver created settings may include seat and mirror positions, programmed radio stations, temperature controls, etc.**” (Ex. 1017, [0031], Ex. 1003, ¶ 312.)

It would have been obvious to add Rector’s driver-created settings to the restriction profiles of Gratz. (*See supra* §VII.B.1.) The combination thus resulting in Gratz’s restriction profiles (“*accounts*”) including “*personal settings of the vehicle occupant.*” (Ex. 1003, ¶ 313.)

Therefore, the combination of Gratz, Bosch, and Rector teaches “*wherein the account comprises rights and privileges for the vehicle occupant with respect to a vehicle task, function or operation [e.g., controlling the engine to change vehicle speed], security and/or authentication requirements and/or credentials for the vehicle occupant [e.g., passwords, voice, and fingerprints], and personal settings of the vehicle occupant [driver created settings, e.g., seat and mirror positions.]*” (Ex. 1003, ¶¶ 306-314, 344-346.)

[6.1]/[20.1] wherein the vehicle task, function, or operation is one or more of the following: entertainment system and media and/or multimedia content.

Like Gratz’s restriction profiles, Rector discloses a “unique identifier” (“*account*”) for each authorized user of the vehicle. (Ex. 1017, [0030].) Also, like Gratz, Rector discloses a “controlling authority” can setup restrictions for each “unique identifier” that are saved in a database 134 of a settings server 130. (Ex. 1017, Abstract, [0031]; Ex. 1003, ¶¶ 315-317.)

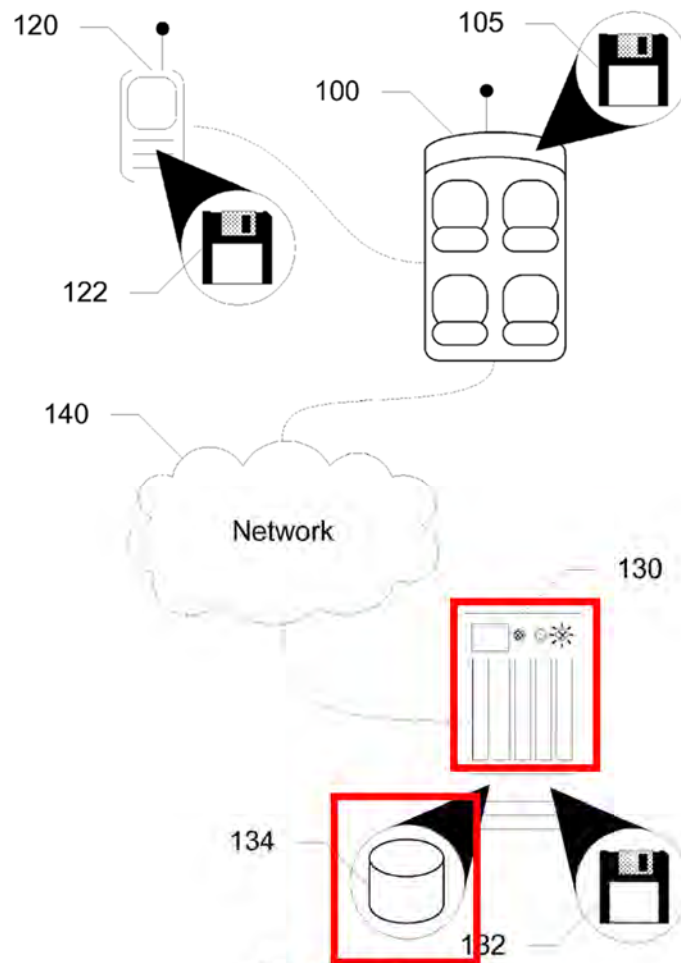


Figure 1

Ex. 1017, Fig. 1 (Annotated)

For example, the controlling authority can set up “radio controls” that limit use of the radio. (Ex. 1017, [0031]; Ex. 1003, ¶¶ 317-318.) The “radio controls” include “maximum radio volume, allowed radio stations, prohibited radio stations, prohibited compact discs, etc.” (Ex. 1017, [0033]; Ex. 1003, ¶¶ 318-319.)

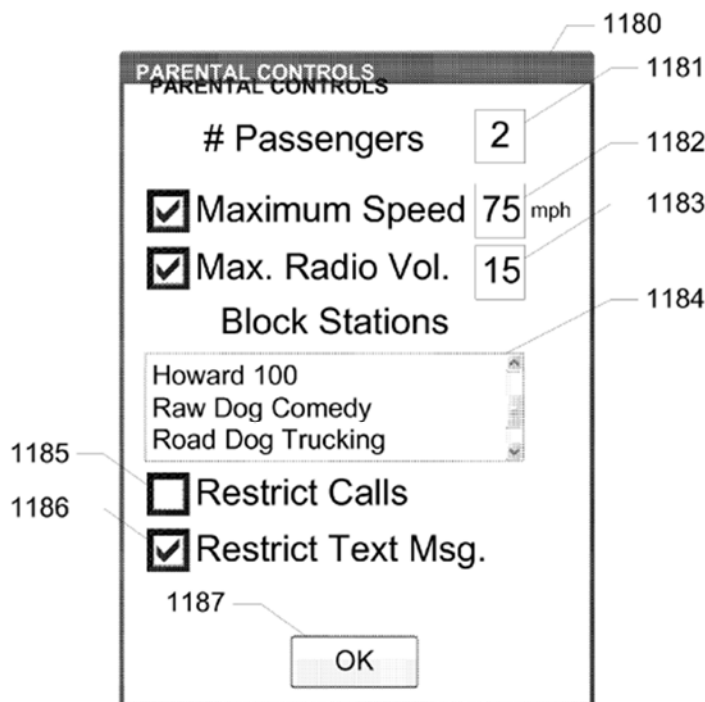


Figure 11

Ex. 1017, Fig. 11

The radio is part of the vehicle's “*entertainment system*” and operating the vehicle radio is a “*vehicle task, function, or operation[.]*” (Ex. 1003, ¶¶ 320-321.) Therefore, Rector discloses “*rights and privileges*” for the vehicle occupant with respect to controlling the volume of the radio (i.e., “*wherein the vehicle task, function, or operation is one or more of the following: entertainment system and media and/or multimedia content*”). (*Id.*)

It would have been obvious to add Rector's radio-control settings to the restriction profiles of Gratz. (*See supra* §VII.B.1; Ex. 1003, ¶ 321.) In combination,

the restriction database 112 and the restriction profiles (“accounts”) of Gratz “comprise[] rights and privileges for the vehicle occupant with respect to” the “entertainment system.” (Ex. 1003, ¶¶ 315-321, 344-346.)

[12.0] The vehicle of claim 8, wherein a different authentication procedure is used for the vehicle occupant when requesting a first set of vehicle tasks, functions or operations than when requesting a second set of vehicle tasks, functions or operations and

Claim limitation [12.0] is the same as limitation [5.0]. See limitation [5.0] for analysis. (Ex. 1003, ¶¶ 325-328.)

[12.1] wherein the vehicle task, function or operation is one or more of the following: entertainment system and media and/or multimedia content.

Claim limitation [12.1] is the same as limitation [6.1]. Therefore, Rector discloses limitation [12.1] as explained in limitation [6.1]. (Ex. 1003, ¶¶ 329-331.)

[13.0] The vehicle of claim 8, wherein the account comprises rights and privileges for the vehicle occupant with respect to a vehicle task, function or operation, security and/or authentication requirements and/or credentials for the vehicle occupant, and personal settings of the vehicle occupant and

Claim limitation [13.0] is the same as limitation [6.0]. See limitation [6.0] for analysis. (Ex. 1003, ¶¶ 332-335.)

[13.1] wherein the task, function or operation is monitoring,

controlling, and/or operation a vehicle sensor,

As discussed in claim 1 of Ground 1, Gratz discloses “*right and privileges*” for the “*vehicle task, function or operation*” of operating the vehicle, including controlling the engine. (Ex. 1018, [0037]; Ex. 1003, ¶¶ 201-215, 336.) Operating the vehicle includes monitoring the speed sensor 136 (“*vehicle sensor*”). Indeed, Gratz compares the speed-sensor data to the maximum-speed restriction to enforce the set speed limit of the restriction profile. (Ex. 1018, [0039]; Ex. 1003, ¶¶ 336-337.)

[13.2] the vehicle sensor being one or more of: ... vehicle control system sensor, ...

As discussed above in limitation [5.2] of Ground 1, the restriction system 100 and the speed sensor 136 discloses a “*vehicle control system sensor.*” (Ex. 1003, ¶¶ 338-339.)

[7.0] The method of claim 6,

[14.0] The vehicle of claim 13,

... wherein the personal settings of the vehicle occupant comprise a plurality of a seat setting, climate control setting, ... rear view mirror setting, ... media channel setting or preset, ...

Rector discloses that the “driver created settings may include seat and mirror positions, programmed radio stations, temperature controls, etc.” (Ex. 1017, [0031]; Ex. 1003, ¶ 323.)

Therefore, Rector’s setting for a seat position discloses “*a seat setting[.]*”

Rector's setting for mirror position discloses "*rear view mirror setting[.]*" Rector's setting for programmed radio stations discloses "*media channel setting or preset[.]*" Rector's setting for temperature controls discloses "*climate control setting[.]*" Accordingly, the combination of Gratz, Bosch, and Rector teaches "*personal settings of the vehicle occupant compris[ing] a plurality of a seat setting, climate control setting, ... rear view mirror setting, ... [and] media channel setting or preset[.]*" (Ex. 1003, ¶¶ 323-324; 340-343.)

[21.0]

Claim limitation [21.0] is the same as claim limitation [7.0] and is therefore disclosed by Rector for the same reasons discussed above. (Ex. 1003, ¶¶ 347-349.)

[21.1]/[21.2]

Claim limitations [21.1]-[21.2] are the same as claim limitations [13.1]-[13.2] and are therefore disclosed for the same reasons discussed above. (Ex. 1003, ¶¶ 350-351.)

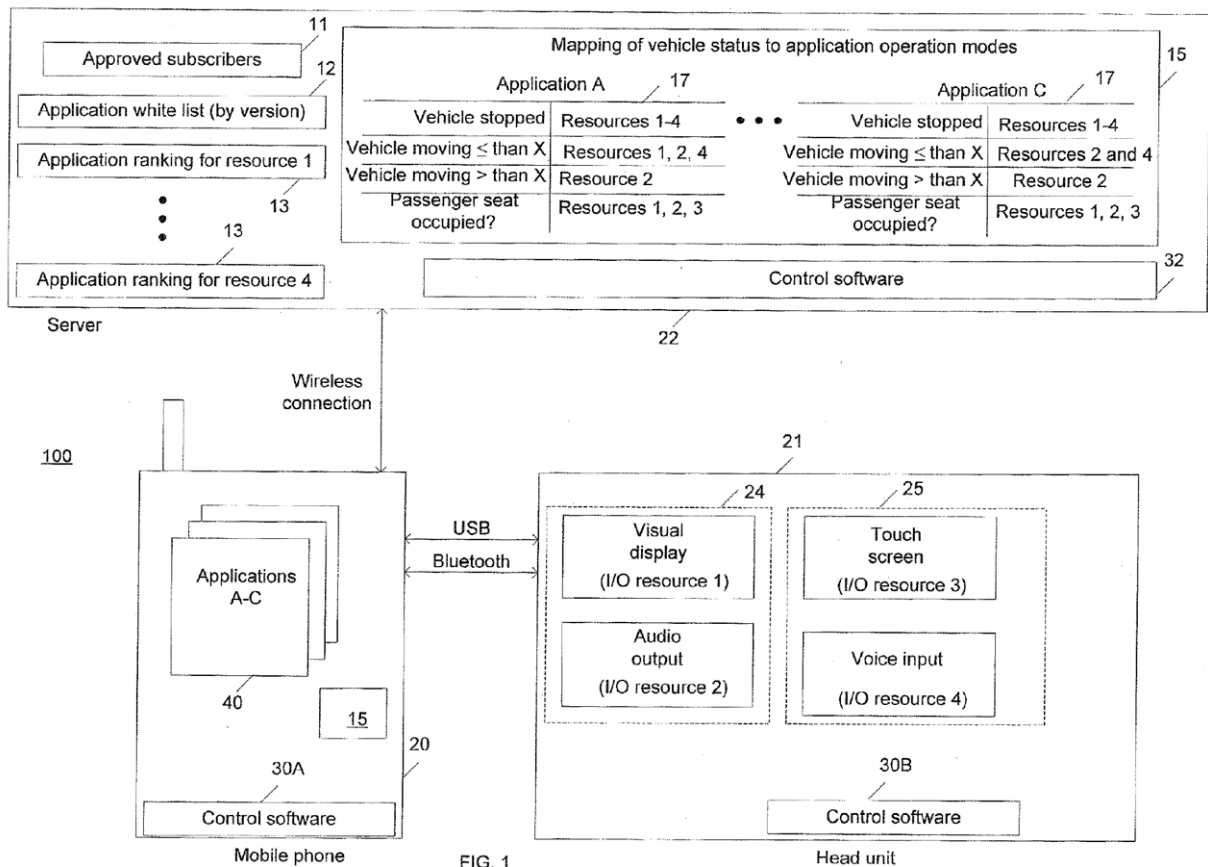
C. Ground 3: Claims 1-4, 6-11, 14-18, and 20 are Unpatentable as Obvious Over Moinzadeh

1. Independent Claims 1, 8, 15

[1.0]

Moinzadeh discloses a system 100 "to control the use of a head unit [21] as an extended interface for a phone application [40]" (Ex. 1013, [0020]; Ex. 1003,

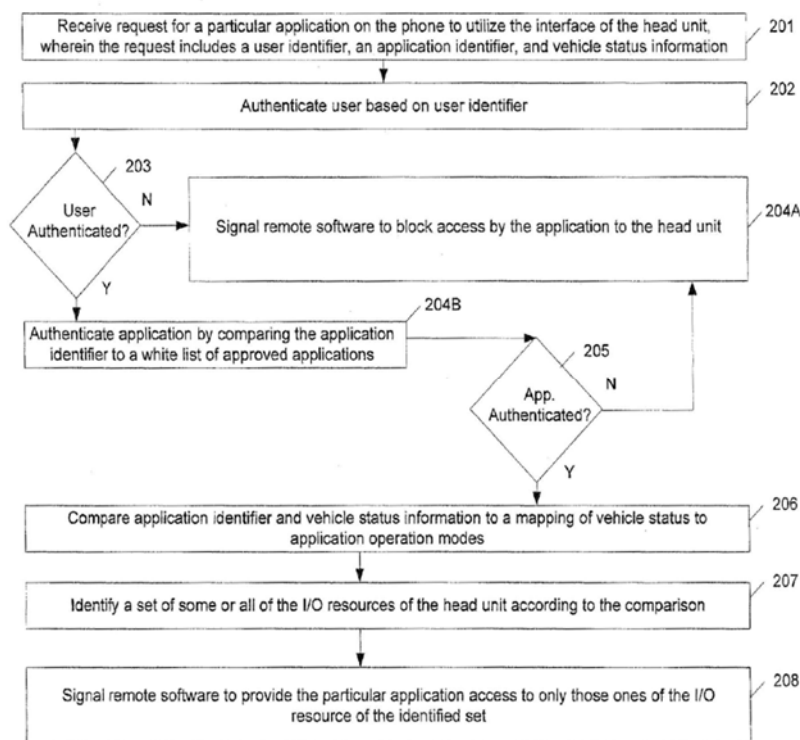
¶ 356.)



Ex. 1013, Fig. 1

Figure 2A illustrates “[a] method” of operating the software 32¹⁴. (Ex. 1013, [0010], [0022]; Ex. 1003, ¶¶ 357-358.)

¹⁴ As discussed below in claim limitation [1.1], the functionality of the server software 32 can be performed by the software 30B of the head unit 21. (Ex. 1013, [0035], [0042]; Ex. 1003, ¶ 357.)



Ex. 1013, Fig. 2A

Furthermore, claim 15 of Moinzadeh recites “[a] method[] comprising” and claims the steps shown in Fig. 2A. (Ex. 1013, Claim 15.) Therefore, Moinzadeh discloses a “method.” (Ex. 1003, ¶¶ 355-359.)

[8.0]

Moinzadeh discloses “[a] motor vehicle [that] can be equipped with a ‘head unit’ having a user interface.” (Ex. 1013, [0003]; Ex. 1003, ¶ 454.) Applications available to users “can reside on [a] mobile device and utilize the vehicle interface as an extended interface, or ... can reside on the vehicle itself. (Ex. 1013, [0008]; Ex. 1003, ¶ 454.)

[15.0]

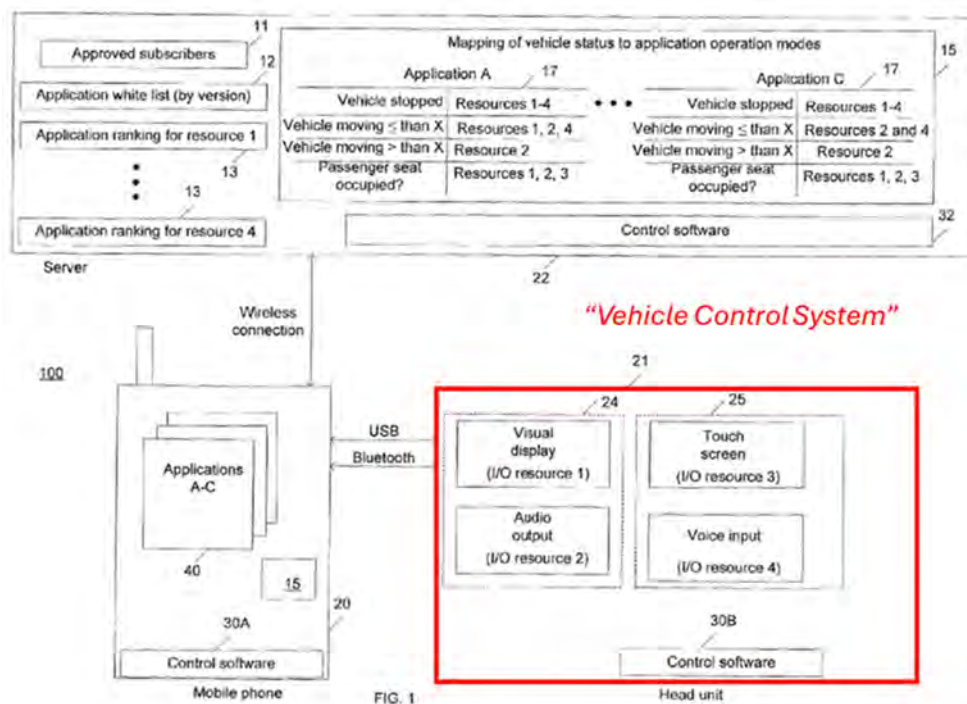
“Some embodiments of [Moinzahadeh’s] invention ... include executable ... instructions ... stored in ... computer-readable storage media,” which discloses the claimed “*computer readable medium*.” (Ex. 1013, [0092], *see also* [0093]-[0094]; Ex. 1003, ¶ 482.) Moinzadeh’s “computer-readable storage media” includes “FLASH memory disposed within an integrated circuit microprocessor or the like[,]” which discloses a *tangible and non-transient computer readable medium*.” (Ex. 1013, [0093]; Ex. 1003, ¶ 483.) Further, the types of memory included in Moinzahadeh’s “computer-readable storage media” “may be used to store executable instructions for implementing the functions described [t]herein.” (Ex. 1013, [0093].) Therefore, Moinzahadeh discloses “computer-readable storage media” comprising “*executable instructions to perform functions*[.]” (Ex. 1003, ¶ 484.)

As referenced above, Moinzadeh discloses a “microprocessor” that houses the storage media and executes the instructions; therefore disclosing “*microprocessor executable instructions*.” (Ex. 1013, [0092]-[0094]; Ex. 1003, ¶¶ 360-364, 482-486.)

[1.1]/[8.1]-[8.2]/[15.1]

Moinzadeh discloses a system 100 “to control the use of a head unit [21] as an extended interface for a phone application [40].” (Ex. 1013, [0020].) “The system 100 includes software 30A and 30B configured on, respectively, a mobile phone 20 ... and head unit 21 ... [that] interfaces with the software 32 configured on a remote

server 22 to regulate and control when and how applications 40 operating on the phone 20 access I/O resources 1-4 of the head unit 21.” (Ex. 1013, [0021]; Ex. 1003, ¶¶ 113, 360; *see also*, Ex. 1052, Vol. 0, p. 62.) Moinzadeh explains that the server software 32 performs certain functionality as to Figure 2A, but explains that “functions described above as being performed by the software of the head unit 21 ... can alternatively be performed by the software of the server 22 in other examples, and vice versa.” (Ex. 1013, [0042]; Ex. 1003, ¶ 361.) Accordingly, Moinzadeh’s head unit 21 is a “*vehicle control system*[.]” (Ex. 1003, ¶ 362.)

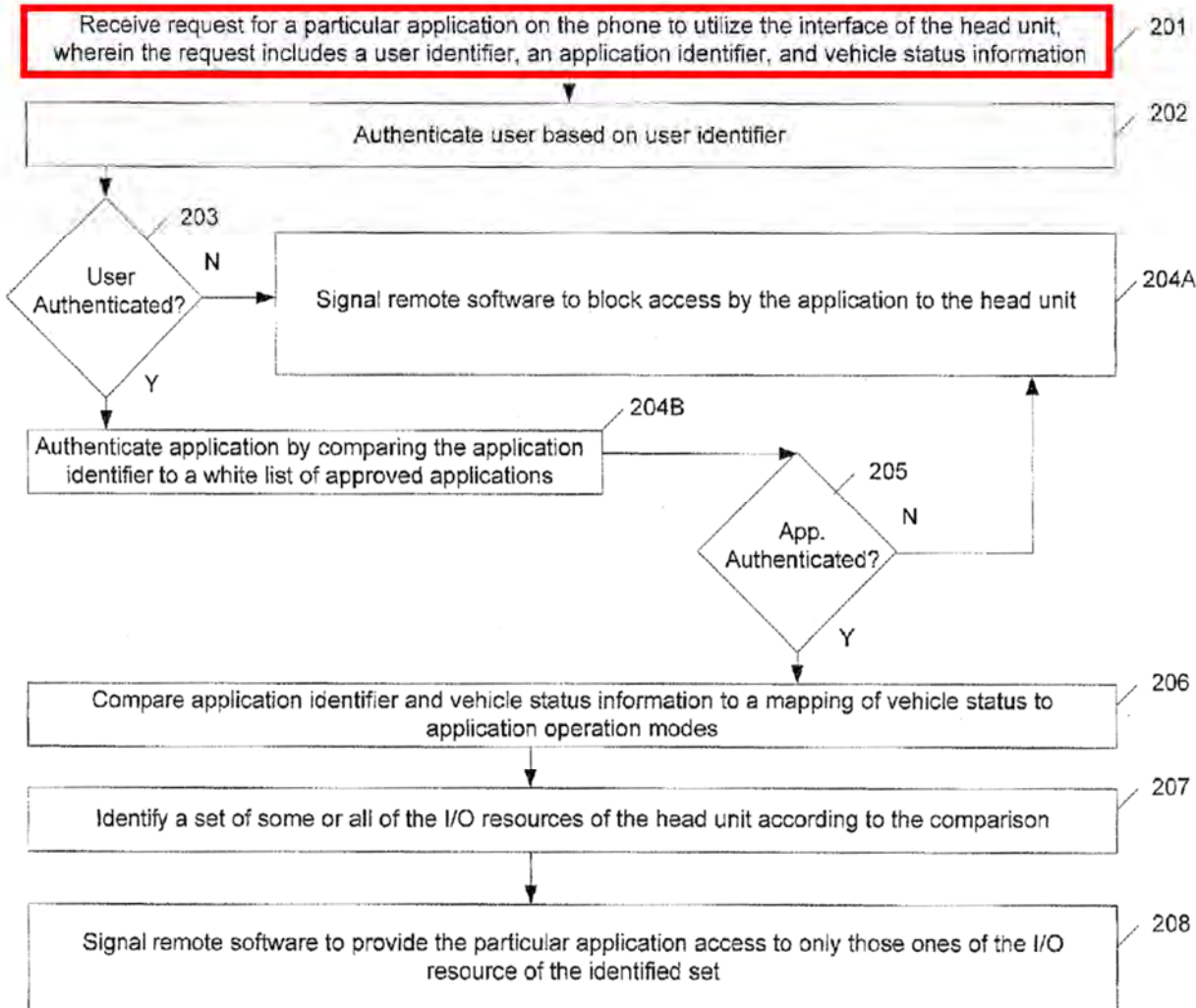


Ex. 1013, Fig. 1 (Annotated)

Moinzadeh further discloses that the system 100 is provided with “memory

disposed within an integrated circuit microprocessor” (Ex. 1013, [0093], *see also* [0092], [0094].) Therefore, Moinzadeh discloses “*a microprocessor executable vehicle control system*[.]” (Ex. 1003, ¶¶ 363-364.)

In one embodiment, system 100 “receives a request for a particular application 40 on the phone 20 to utilize the interface ... of the head unit” which is “*a vehicle task, function or operation*[.]” (Ex. 1013, [0023].) As explained above, this functionality could be performed by the software 30B of the head unit 21. (Ex. 1013, [0021], [0042].) (Ex. 1003, ¶ 365.)



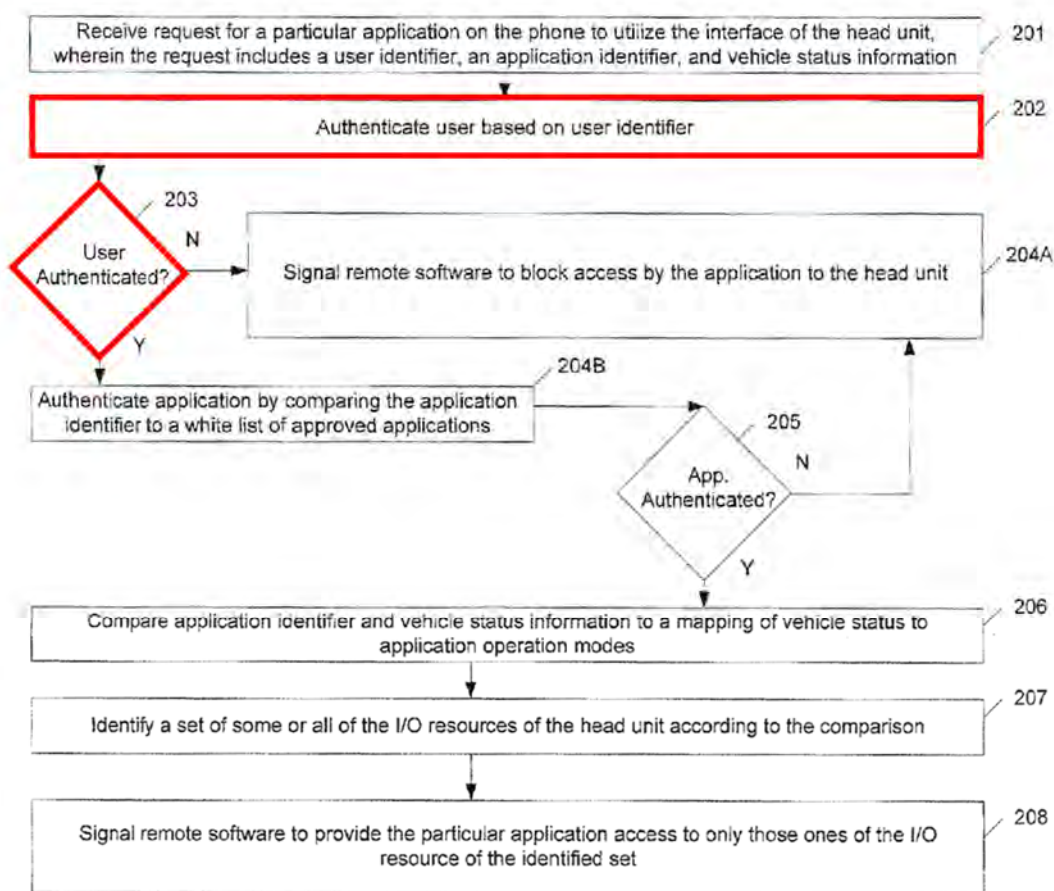
Ex. 1013, Fig. 1 (Annotated)

Here, the head unit 21 (“*microprocessor executable vehicle control system*”) receives a request to extend the phone application utilizing the head unit 21’s interface while the user is within the vehicle, i.e., “*a request from a vehicle occupant.*” (Ex. 1013, [0023]; Ex. 1003, ¶¶ 365-366.) Accordingly, Moinzadeh discloses “*receiving, by a microprocessor executable vehicle control system [head unit 21], a request from a vehicle occupant to perform a vehicle task, function or*

operation [e.g., to extend an application to the head unit 21.]” (Ex. 1003, ¶¶ 360-367, 455-456, 487-488.)

[1.2]/[8.3]/[15.3]

Moinzadeh discloses the system 100 authenticates the user prior to extending the phone application on the head unit 21 with reference to Figure 2A. (Ex. 1013, [0024], Fig. 2A; Ex. 1003, ¶¶ 368-370.)



Ex. 1013, Fig. 2A (Annotated)

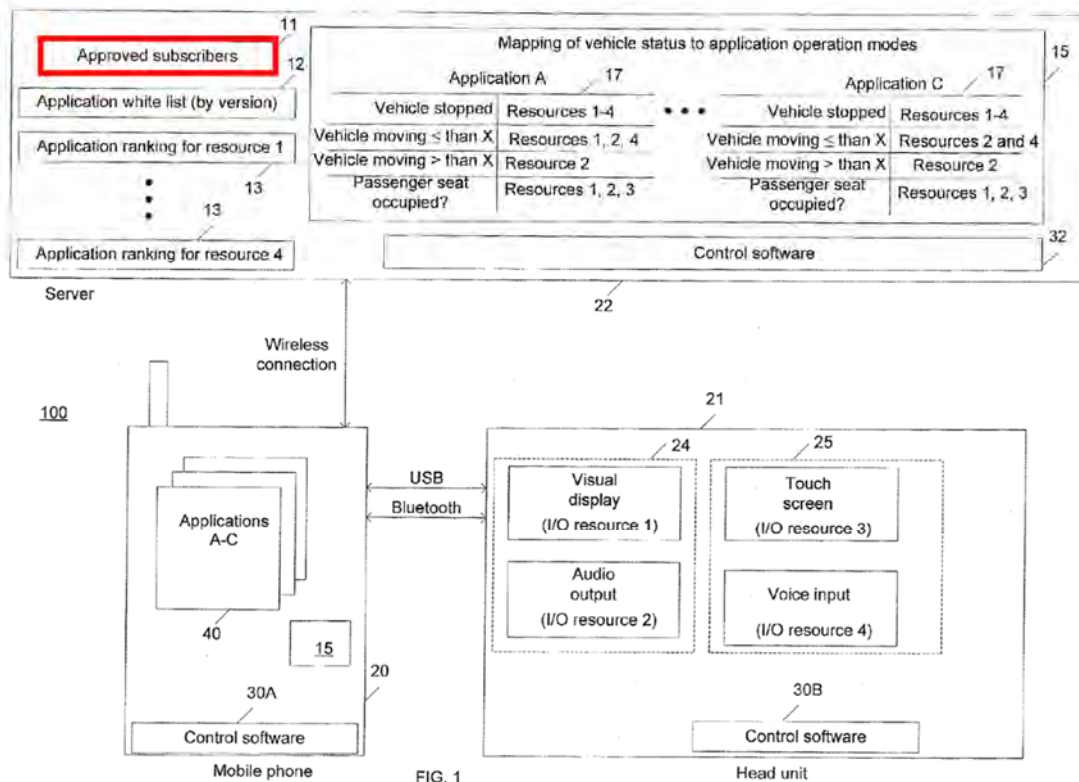
The authentication process includes “determining whether the user identified

by the user identifier matches a database 11 of subscribers for the service” to “authenticate[] the user” at block 202. (Ex. 1013, [0024]; Ex. 1003, ¶¶ 368-369.) Moinzadeh explains that the “user identifier correspond[s] to the user of the motor vehicle,” e.g., the “user's phone number.” (Ex. 1013, [0023].) Thus, Moinzadeh discloses authenticating a user based on comparing their phone number to a database 11 of subscribers. (Ex. 1003, ¶ 369.) As illustrated in Figure 2A above, the system 100 confirms that the user is authenticated at block 203 before proceeding to block 204. (Ex. 1013, [0023]-[0024]; Ex. 1003, ¶¶ 368-369.) Moinzadeh discloses that the functionality of the flow chart illustrated in Fig. 2A can be implemented by the software 30B of the head unit 21. (Ex. 1013, [0042]; Ex. 1003, ¶¶ 365, 370.)

Thus, Moinzadeh discloses “*determining, by the microprocessor executable vehicle control system [head unit 21], that the vehicle occupant has been authenticated successfully [e.g., authentication using user’s phone number and subscriber database 11.]*” (Ex. 1003, ¶¶ 368-371, 457-458, 490-491.)

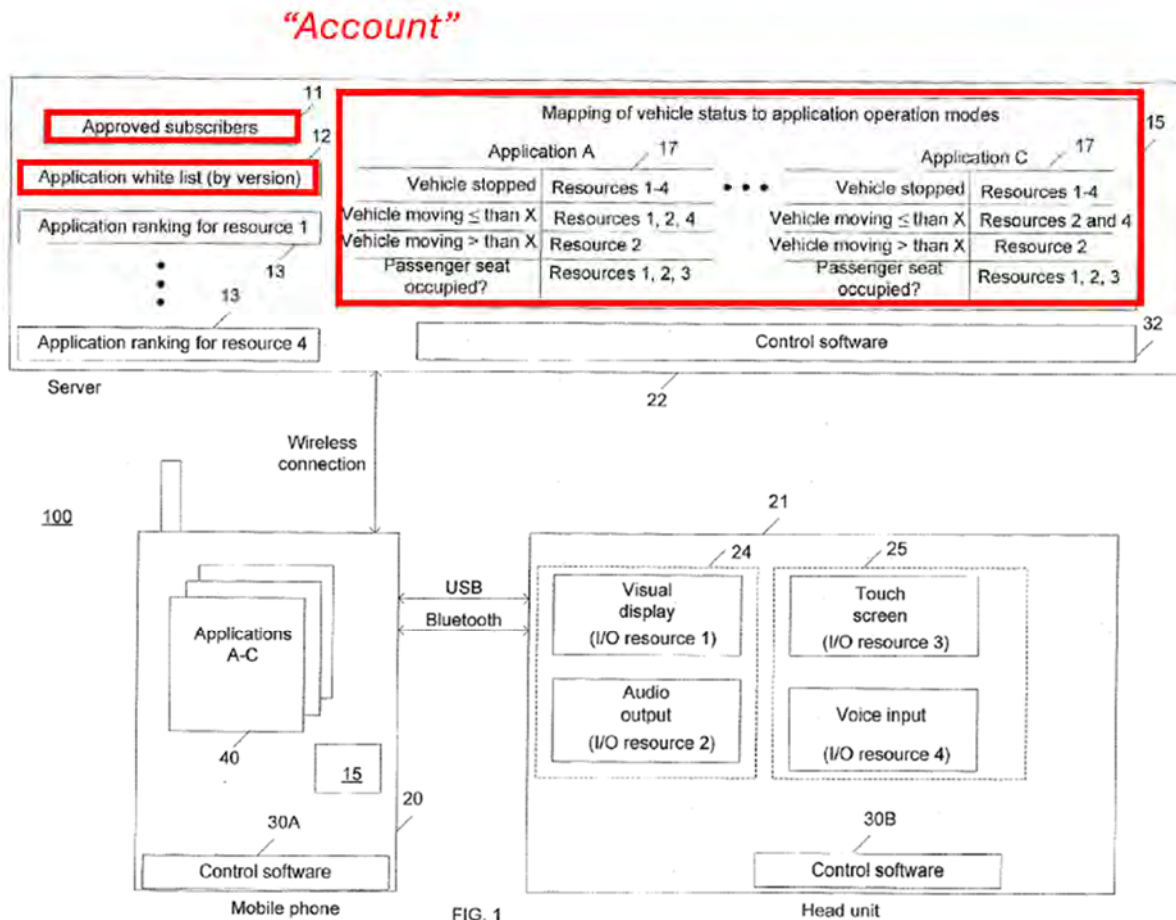
[1.3]/[8.4]/[15.4]

Moinzadeh discloses that the server 22 includes a “database 11 of subscribers for the service of extending the interface of the phone 20 using the head unit 21.” (Ex. 1013, [0024].) The subscriber database 11 includes a collection of user identifiers used during authentication as discussed above. (*Id.*, Ex. 1003, ¶¶ 372-373.)



Ex. 1013, Fig. 1 (Annotated)

The server 22 further includes “a list 12 of applications (also referred to as a whitelist)” containing approved applications that, if authenticated, are compared “to a mapping 15 of application operation modes.” (Ex. 1013, [0025]-[0026], Fig. 1; Ex. 1003, ¶¶ 374-375.) The mapping 15 defines input/output (I/O) resource permissions for the user’s applications 40 based on a sensed operating state of the vehicle, such as stopped or moving. (Ex. 1013, [0026]; Ex. 1003, ¶ 382.)



Ex. 1013, Fig. 1 (Annotated)

The databases 11 and 12 and the mapping 15 collectively provide an “*account for the vehicle occupant*” because they contain all of the information relevant to an authenticated user for the purposes of using the system 100 to extend an application 40 from the mobile phone 20 to the head unit 21. Moinzadeh explains that the databases 11 and 12 and the mapping 15 can be provided on the vehicle head unit 21. (Ex. 1013, [0024]-[0026], [0042]; Ex. 1003, ¶¶ 101-103, 376-378.)

Moinzadeh’s subscriber database 11 defines “*rights and privileges*” of the

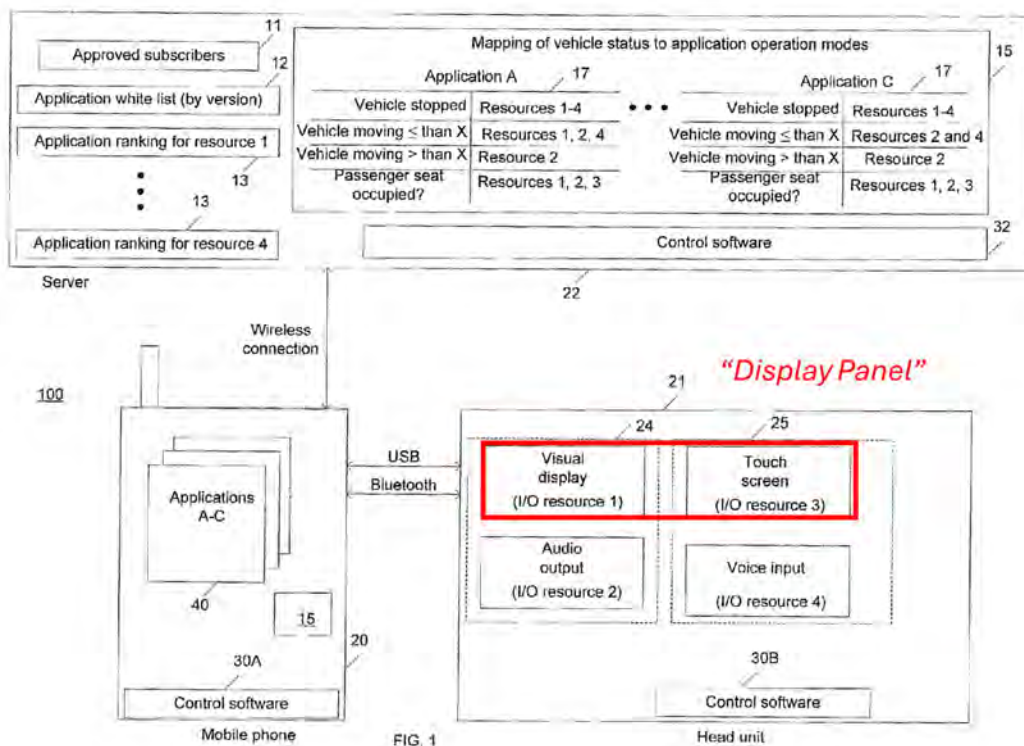
“*vehicle occupant*” to use the system 100 to extend his/her phone on the head unit 21 (Ex. 1013, [0024]); the whitelist 12 defines “*rights and privileges*” for which applications can be extended to the head unit 21 (Ex. 1013, [0025]); and the mapping 15 defines “*rights and privileges*” for which I/O resources of the head unit 21 an extended application 40 can use based on the vehicle operating state, such as stopped or moving (Ex. 1013, [0026]). (Ex. 1003, ¶¶ 377-383.)

Moinzadeh discloses to “*access*” the subscriber database 11 of the “*account*” during authentication and “*access*” the whitelist 12 and mapping 15 of the “*account*” when processing a request to extend a phone application 40 on the head unit 21. (Ex. 1013, [0024]-[0026]; Ex. 1003, ¶¶ 187-192, 384.) Moinzadeh explains this functionality of the system 100 can be performed by the head unit software 30B. (Ex. 1013, [0042].) Therefore, Moinzadeh discloses “*accessing, by the microprocessor executable vehicle control system [e.g., head unit 21], an account for the vehicle occupant, the account defining rights and privileges of the user with respect to controlling a vehicle task, function or operation [e.g., controlling the I/O resources of the head unit 21 to extend a phone application 40].*” (Ex. 1003, ¶¶ 372-385, 459-460, 492-493.)

[1.4]/[8.5]/[15.2]

Moinzadeh discloses, with reference to Figure 1 below, that the head unit 21 includes I/O resources 1-4 including a visual display (I/O Resource 1) and a touch

screen (I/O Resource 3) (Ex. 1013, [0021], [0023]), both of which are a “display panel.” (Ex. 1003, ¶¶ 386-387.)



Ex. 1013, Fig. 1 (Annotated)

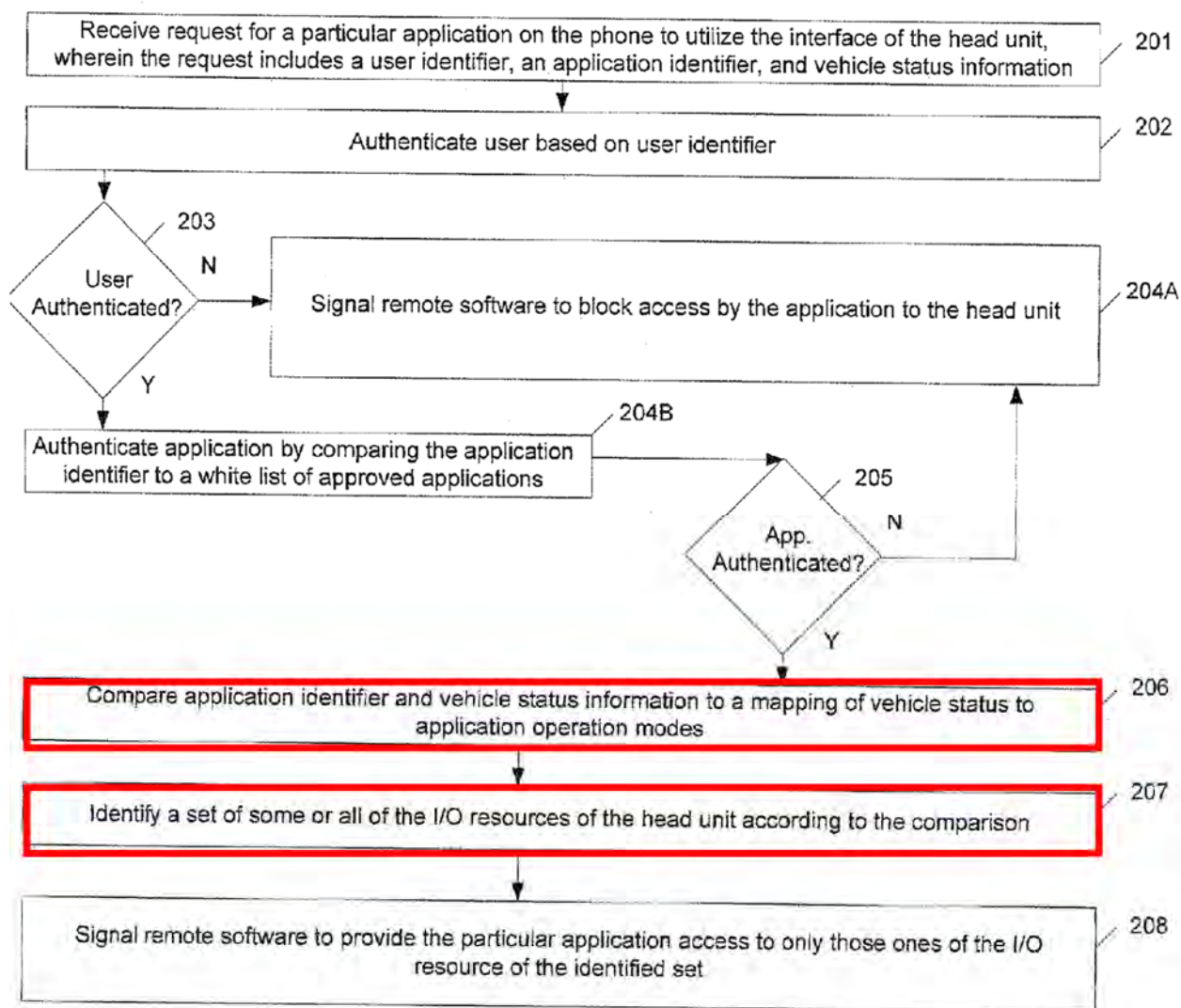
Accordingly, Moinzadeh discloses “wherein the vehicle task, function or operation is one or more of the following: monitoring, controlling, and/or operating ... display panel [visual display 24 with touch screen 25]” as explained below. (Ex. 1003, ¶¶ 388-390.)

One of the example applications that can be extended to the head unit 21 is a video game application. (Ex. 1013, [0026], Fig. 1; Ex. 1003, ¶¶ 388-389.) The mapping 15 of the “account” defines “rights and privileges” for which I/O

Resources can be utilized by the video game application. (Ex. 1003, [0026]; Ex. 1003, ¶¶ 389-390.) A POSA would have understood a head unit that allows a vehicle occupant to play video games (display with audio output) is an “*entertainment system*.” (Ex. 1003, ¶¶ 390-391.) A POSA would have further understood a video game application to be “*media and/or multimedia content[.]*” (Ex. 1003, ¶ 391.) Therefore, Moinzadeh also discloses “*wherein the vehicle task, function or operation is one or more of the following: monitoring, controlling, and/or operating ... display panel [visual display 24 with touch screen 25], ... entertainment system, and media and/or multimedia content [e.g., the system 100 controls the head unit to display a video game application under certain conditions.]*” (Ex. 1003, ¶¶ 386-392, 461, 489.)

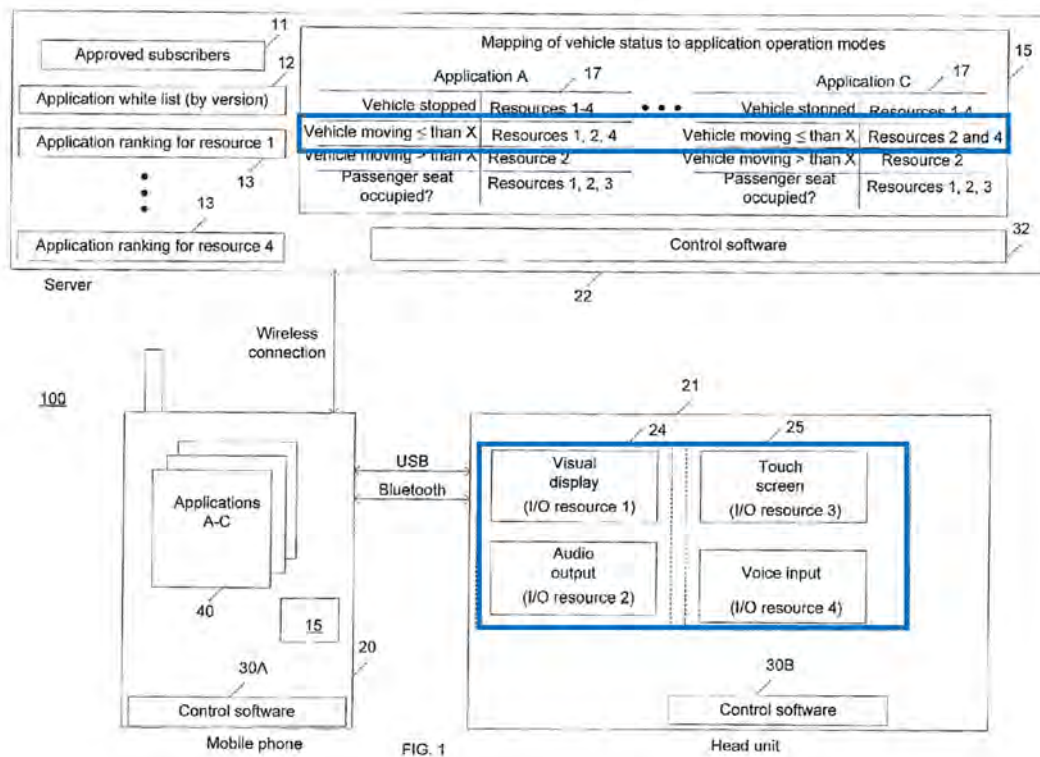
[1.5]/[8.6]/[15.5]

Moinzadeh discloses the system 100 uses the “current vehicle status information” (“*operating state of the vehicle*”) when determining how to extend a phone application 40 to the head unit 21. (Ex. 1003, ¶¶ 393-394.) As described with reference to the flow chart of Figure 2A, the system 100 “compares the application identifier and the current vehicle status information to a mapping 15 of application operation modes” and then identifies which I/O resources of the head unit 21 an application 40 can utilize based on the comparison. (Ex. 1013, [0026].) As discussed above, Moinzadeh discloses the head-unit software 30B can perform this comparison. (Ex. 1013, [0042]; Ex. 1003, ¶¶ 361-362, 394-395.)



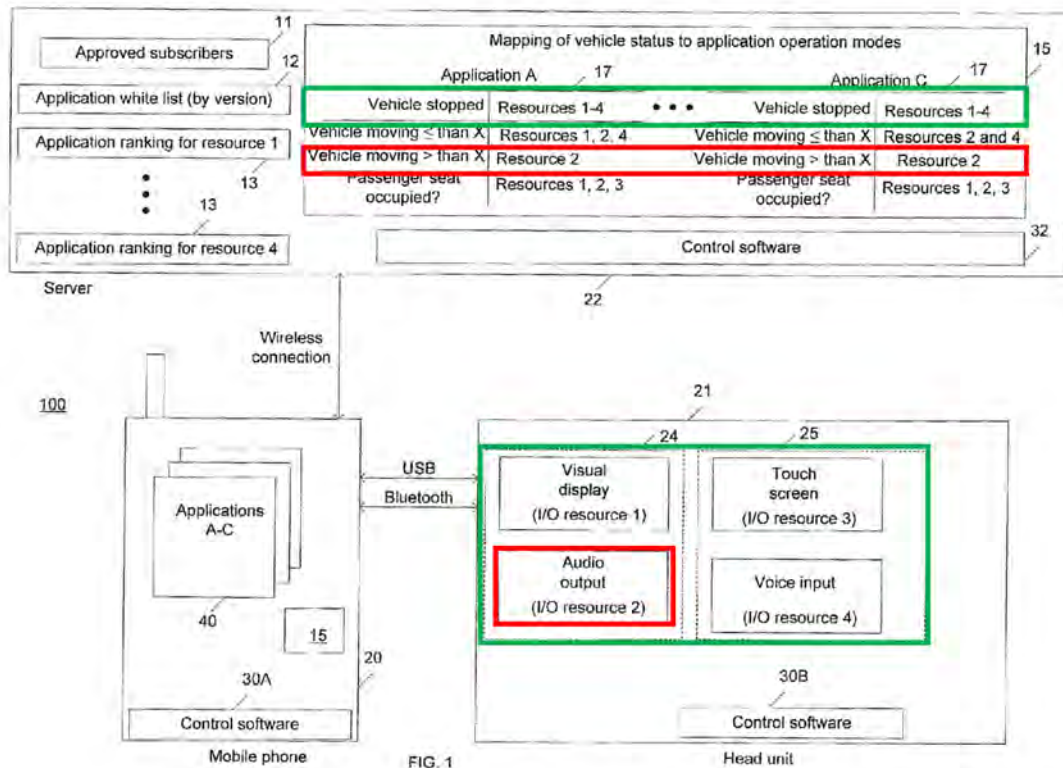
Ex. 1013, Fig. 2A (Annotated)

For example, Moinzadeh discloses that when the “vehicle [is] moving $\leq$ than X” speed, the system 100 permits the navigation “application A ... to access ... the screen 1, the speaker 2, and microphone 4” and permits the game “application C ... to access the speaker 2 and microphone 4” as annotated in blue below. (Ex. 1013, [0026], Ex. 1003, ¶¶ 395-396.)



Ex. 1013, Fig. 1 (Annotated)

Moinzadeh further discloses limiting access to only the audio output I/O (Resource 2) when the vehicle is moving over a predetermined speed (“Vehicle moving $>$ than X”) as annotated in red below. This indicates that the system 100 prevents the Application A (navigation) and Application C (Game) from being shown on the visual display (I/O resource 1) or accessible using the touch screen (I/O resource 3) once the vehicle is traveling above speed “X”. Moinzadeh also discloses that the system 100 allows access to all I/O “Resources 1-4” when the “Vehicle [is] stopped” as annotated in green below. (Ex. 1013, [0026]; Ex. 1003, ¶ 397.)



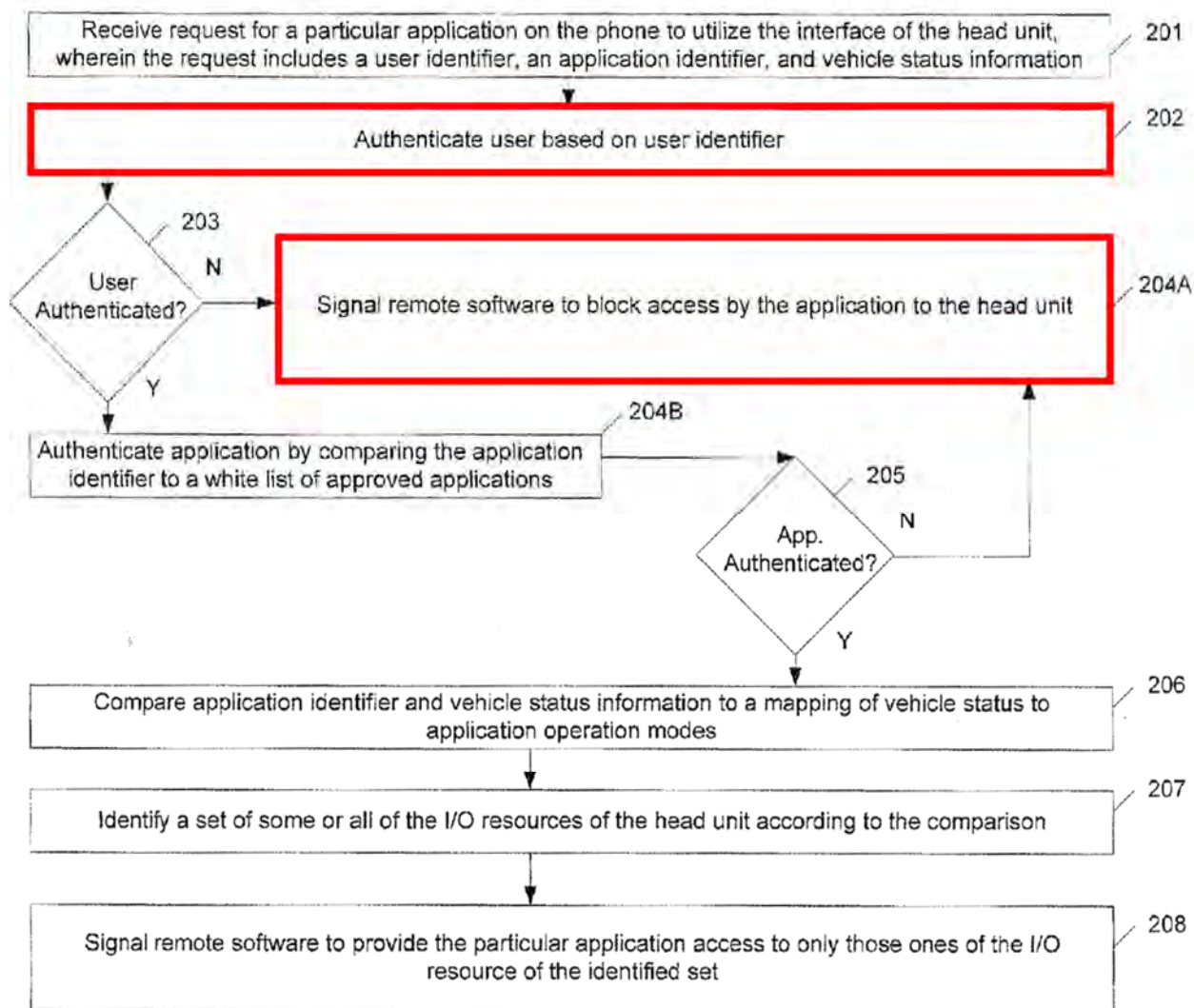
Ex. 1013, Fig. 1(Annotated)

Therefore, Moinzadeh discloses “determining, by the microprocessor executable vehicle control system, ... an operating state of the vehicle[,]” such as if the vehicle is moving or stopped. (Ex. 1003, ¶¶ 393-398, 462-463, 494-495.)

[1.6]/[8.7]/[15.6]

Moinzadeh discloses that the system 100 applies rules for extending an application to the head unit based upon the subscriber database 11, the mapping 15, and the operating state of the vehicle, e.g., stopped vs. moving. (Ex. 1003, ¶ 399.) For example, Moinzadeh discloses “to block access by the application 40 to the head

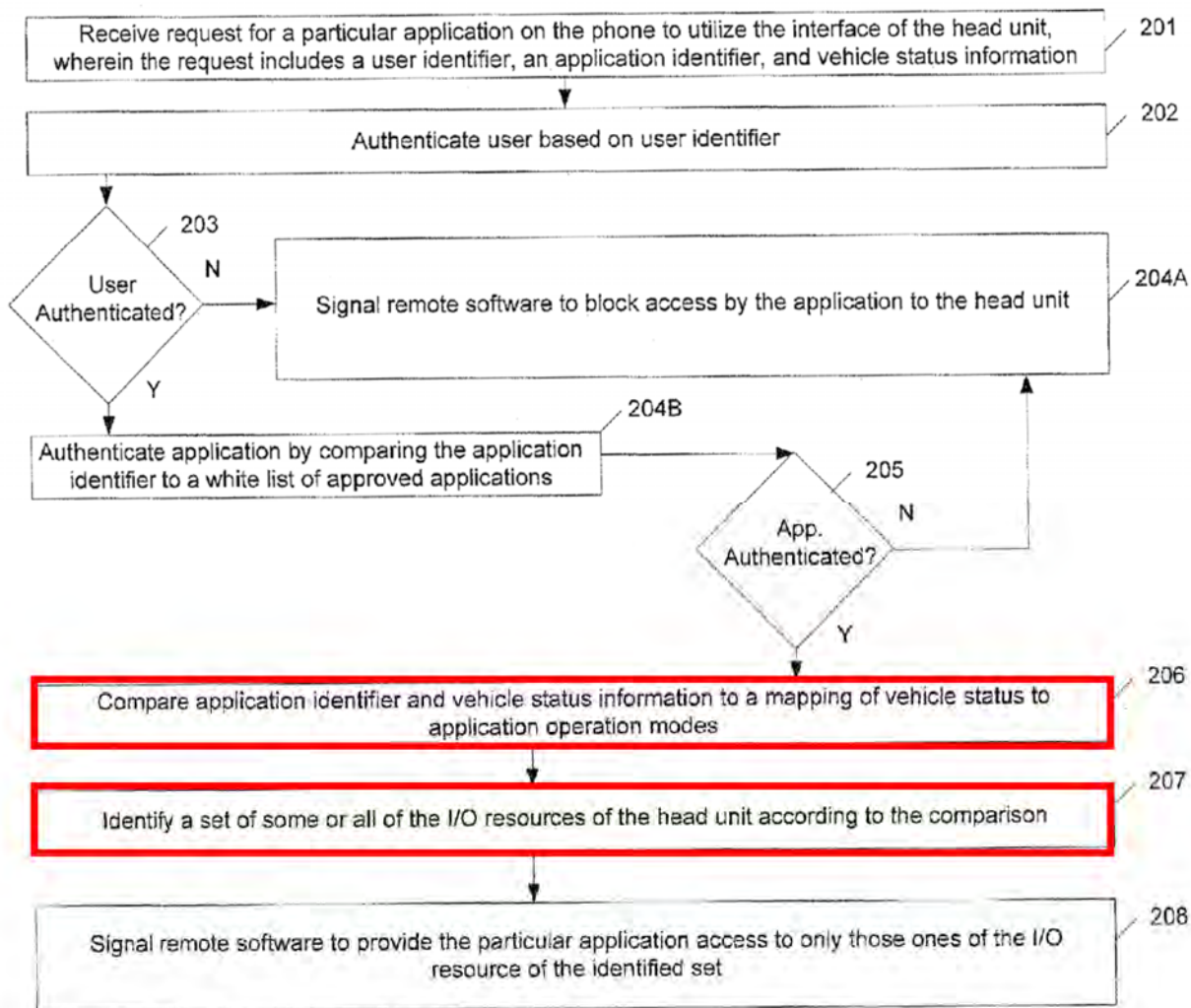
unit 21” “in block 204A” “[i]f the user is not authenticated in diamond 203,” e.g., when the user identifier does not match a subscriber in the subscriber database 11. (Ex. 1013, [0024], [0042]; Ex. 1003, ¶ 400.)



Ex. 1013, Fig. 2A (Annotated)

Moinzadeh also applies rules based on the mapping 15 (part of the “*account*”) and the “*operating state of the vehicle*,” e.g., stopped vs. moving, to determine which I/O resources an application 40 can access for an authenticated user. (Ex. 1013,

[0026]; Ex. 1003, ¶¶ 401-402.)



Ex. 1013, Fig. 2A (Annotated)

Accordingly, Moinzadeh discloses, “based upon the account corresponding to the vehicle occupant [e.g., subscriber database 11 and mapping 15] and the at least one of an area and/or zone occupied by the vehicle occupant and an operating state of the vehicle,[e.g., vehicle stopped or moving greater than X] applying, by the microprocessor executable vehicle control system, the following rules[.]” (Ex. 1003,

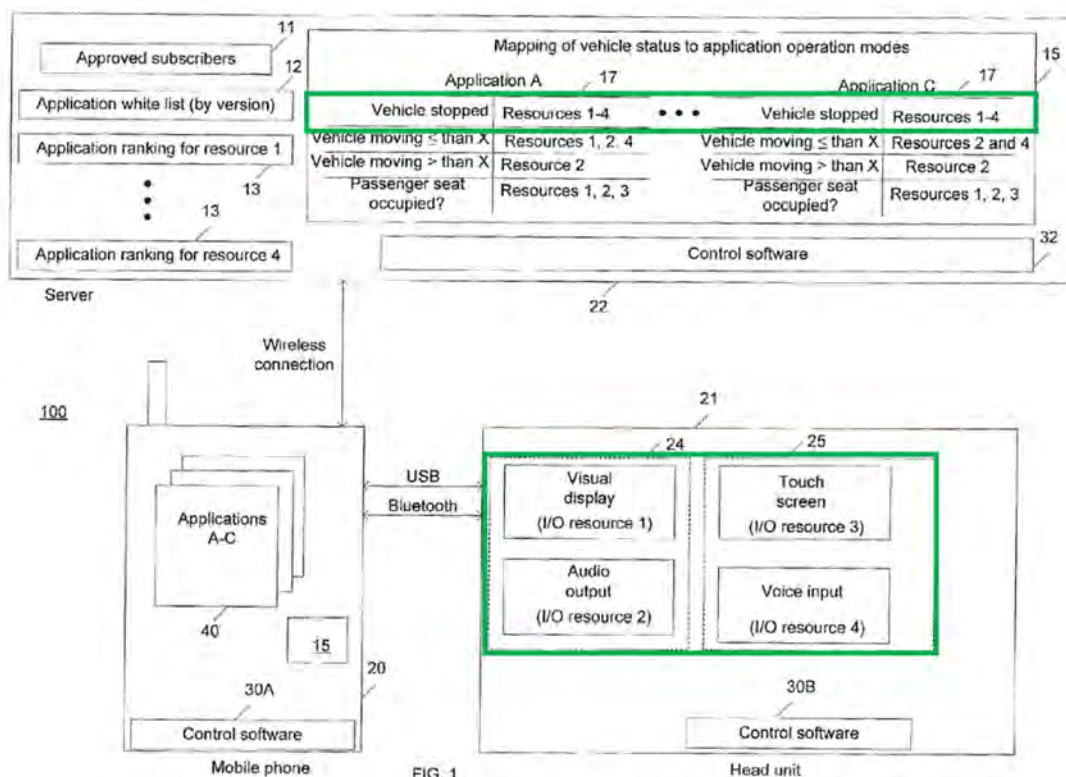
¶¶ 399-402, 464-465, 496-497.)

[1.6.i]/[8.7.i]/[15.6.i]

These claim limitations are closely related to the previous limitations [1.6]/[8.7]/[15.6] and the above analysis is incorporated herein and vice versa.

Moinzadeh discloses that when (i) the subscriber database 11 of the “*account*” permits the “*vehicle occupant*” to use the system 100 and (ii) the mapping 15 of the “*account*” allows the requested application 40 to access the requested I/O resource of the head unit 21 in view of the vehicle operating state, “*performing or causing to be performed the vehicle task, function or operation*” of extending the application 40 to the requested one or more I/O resources of the head unit 21. (Ex. 1013, [0026]; Ex. 1003, ¶¶ 403-404.)

In one example, Moinzadeh discloses the system 100 “*perform[s] or caus[es] to be performed the vehicle task, function or operation*” of allowing access to all I/O “Resources 1-4” including showing Application A on the display 24 (also called screen 1) and allowing the touch screen 25 to interact with Application A when the vehicle is stopped (“*operating state*”) and the user matches the subscriber database 11 (“*based on the account*”) as annotated in green below. (Ex. 1013, Fig.1, [0026]; Ex. 1003, ¶¶ 403-404, 466, 498.)

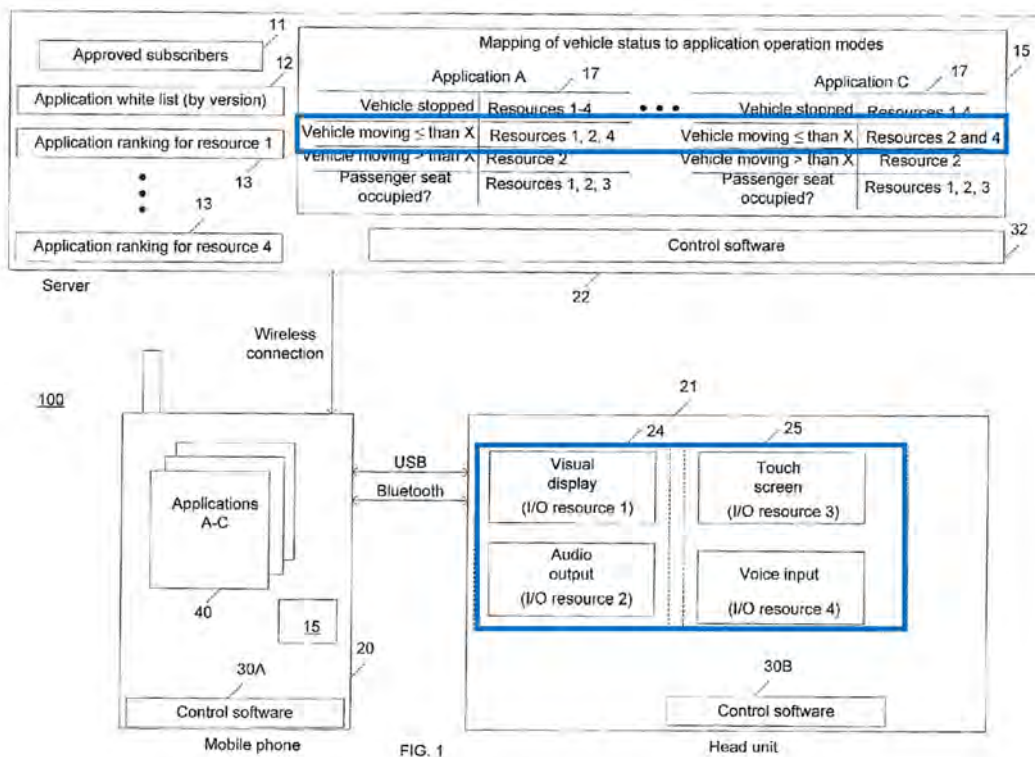


Ex. 1013, Fig. 1(Annotated)

[1.6.ii]/[8.7.ii] (ii)/[15.6.ii]

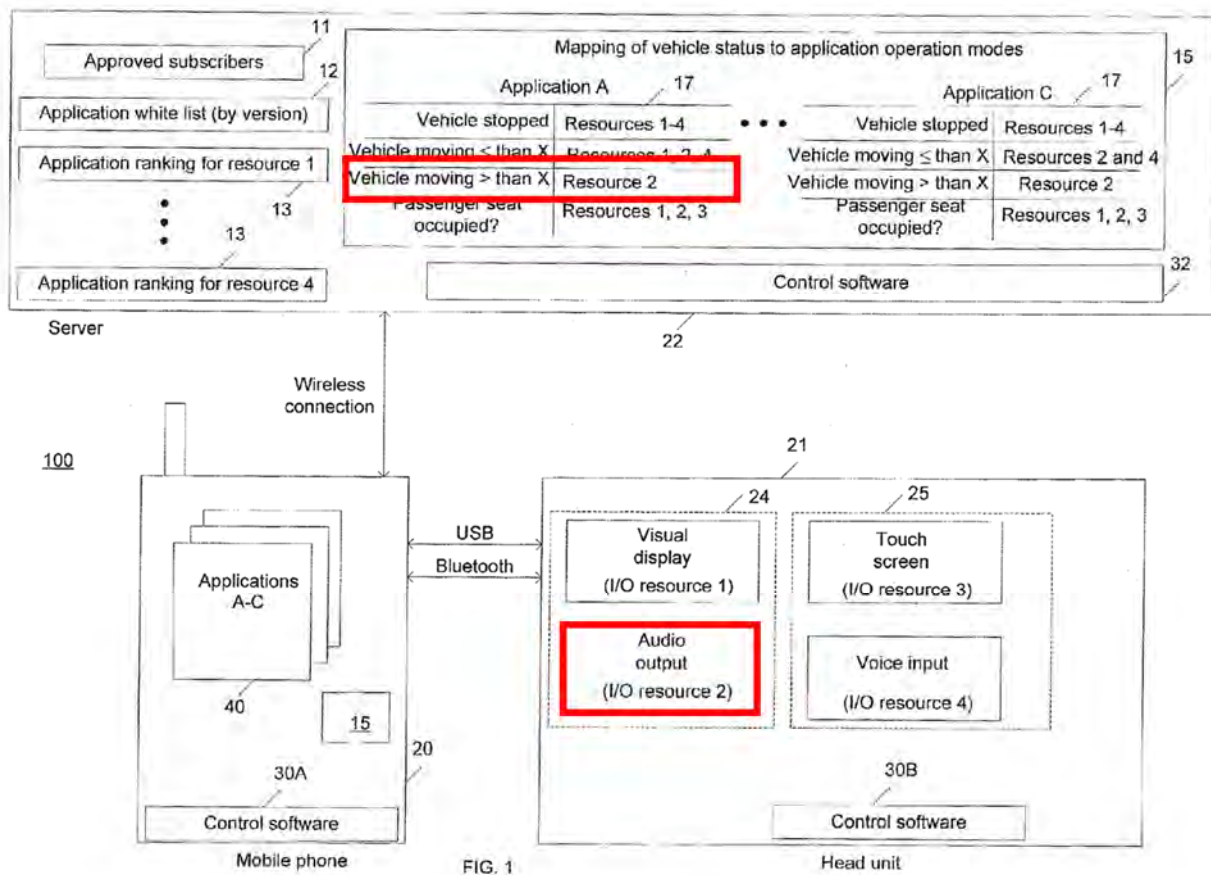
Continuing with the above example, Moinzadeh discloses that when the “vehicle [is] moving $\leq$ than X” speed, the system 100 permits the navigation “application A ... to access ... the screen 1, the speaker 2, and microphone 4” and permits the game “application C ... to access the speaker 2 and microphone 4” as annotated in blue in Fig. 1 below. (Ex. 1013, [0026].) Thus, the system 100 prevents (“not performing or causing to be performed”) the “vehicle occupant” from entering inputs via the touch screen 25 (I/O Resource 3) when the vehicle is moving (“operating state”) because the mapping 15 portion of the “account” does not permit

that “*vehicle task, function, or operation[.]*” (Ex. 1013, [0026]; Ex. 1003, ¶¶ 405-408, 466, 498.)



Ex. 1013, Fig. 1 (Annotated)

The system 100 also prevents the vehicle occupant from showing Application A on the display 24 (“*vehicle task, function, or operation*”) when the vehicle is moving above a threshold speed (X) (another “*operating state of the vehicle*”). (Ex. 1013, Fig.1, [0026]; Ex. 1003, ¶ 406.)

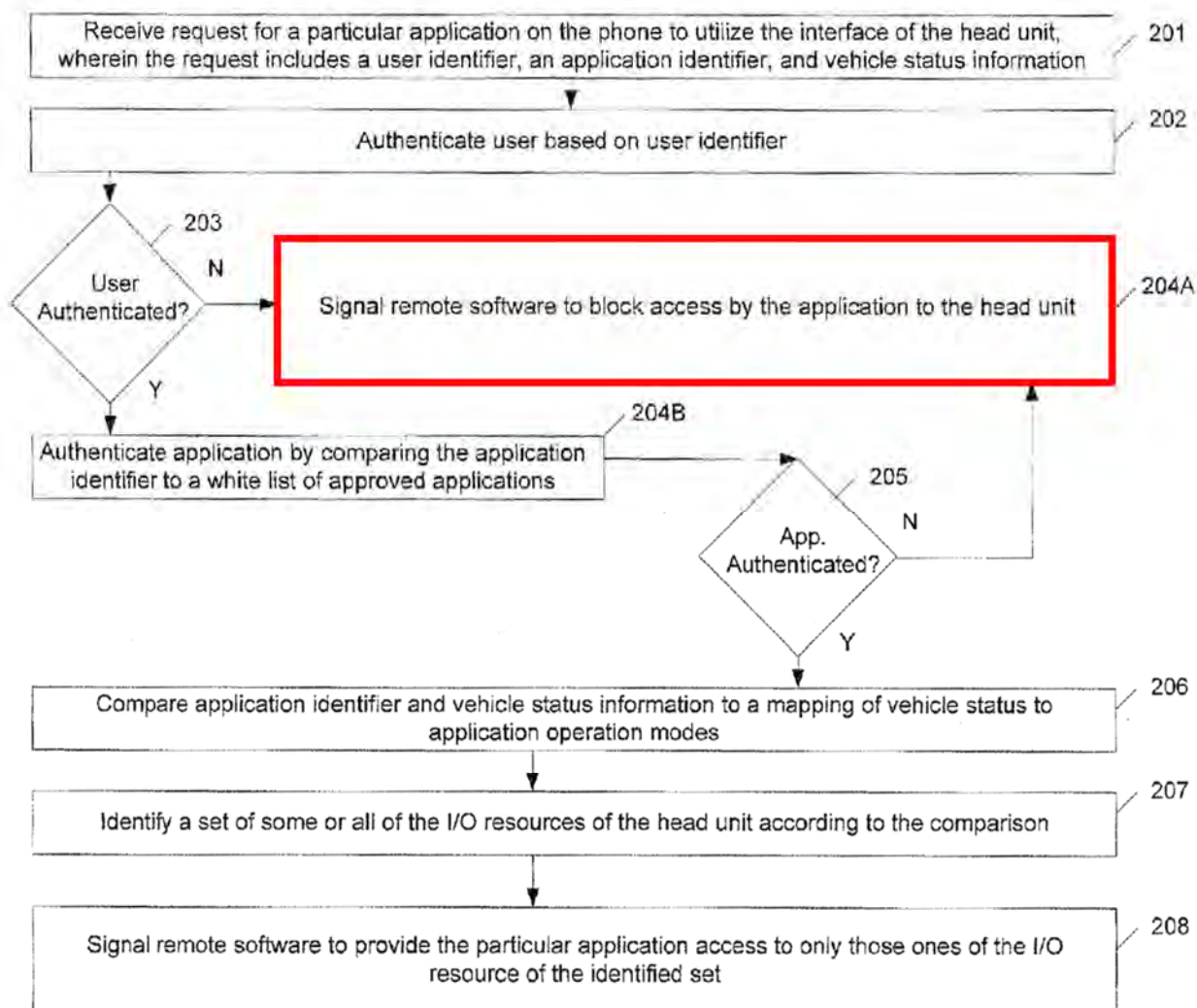


Ex. 1013, Fig. 1 (Annotated)

Moinzadeh also discloses that when the requested application 40 does not match with the application whitelist 12 portion of the vehicle occupant’s “account,” the system 100 “does not permit the vehicle occupant to perform the requested vehicle task, function or operation” of extending that application to the head unit in any capacity. (Ex. 1013, [0025]; Ex. 1003, ¶ 407, 466, 495.)

Moinzadeh further discloses that when the subscriber database 11 does not have a match with the vehicle occupant (Ex. 1013, [0024]), the system 100 “does not permit the vehicle occupant to perform the requested vehicle task, function or

operation[.]” (Ex. 1003, ¶ 408.)



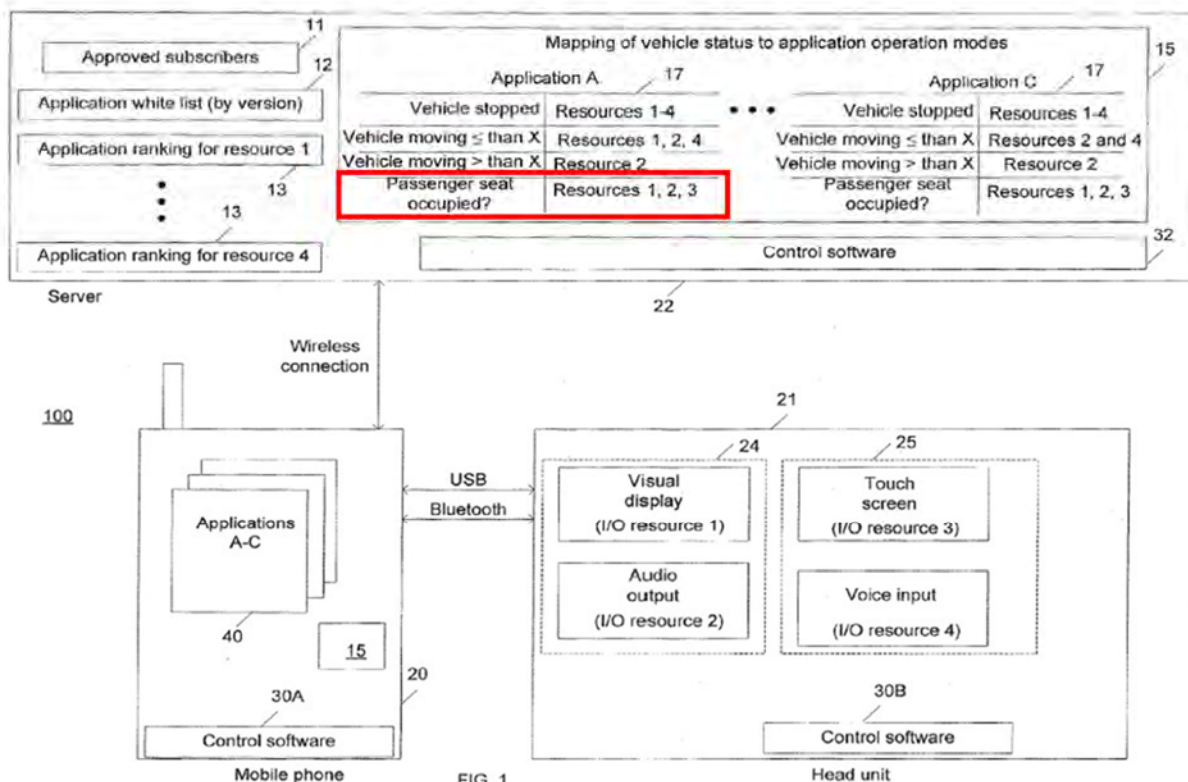
Ex. 1013, Fig. 2A (Annotated)

2. Dependent Claims 2-4, 6-7, 9-11, 14, 16-18, and 20

[2.0]/[9.0]/[16.0] wherein ... the microprocessor executable vehicle control system applies the rules based on the account corresponding to the vehicle occupant and the area and/or zone occupied by the vehicle occupant

Moinzadeh discloses that the system 100 includes mapping 15 that is also

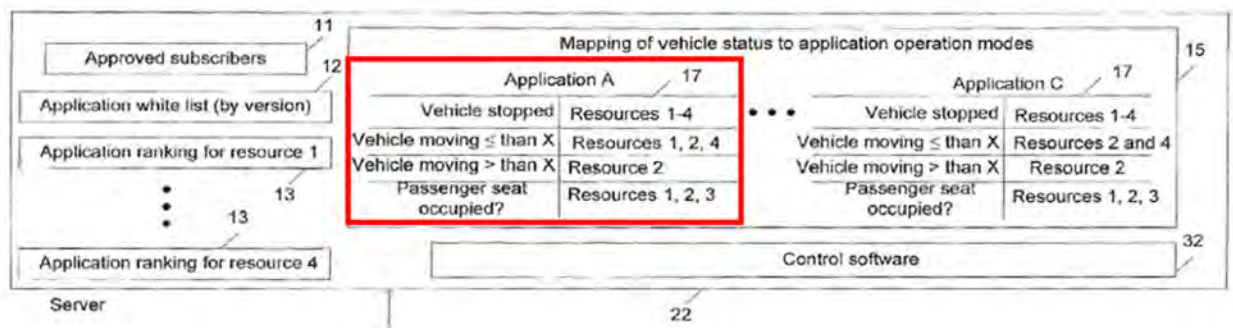
based on whether the passenger seat is occupied, e.g., “another vehicle status could be whether the vehicle is moving more than speed ‘X’ AND a passenger is present.” (Ex. 1013, [0038], *see also* claim 12; Ex. 1003, ¶ 411.) The driver’s seat, passenger’s seat, and backseat are all well-known areas of a vehicle passenger cabin and therefore, a POSA would have understood the passenger seat to be an “*area and/or zone*” of the vehicle. (Ex. 1003, ¶ 412.)



Ex. 1013, Fig. 1 (Annotated)

As discussed in claim 1, the “*account*” includes mapping 15. The mapping 15 further includes “*rules*” for which I/O resources are available to an application 40 based on if a “*vehicle occupant*” is in the passenger seat or not. (Ex. 1013, Fig.1) In

the example of Figure 1, for Application A, when the passenger seat is unoccupied and the vehicle is moving, I/O resource 3 (touch screen 25) is not available. However, when the passenger seat is occupied, I/O resource 3 is available at any vehicle speed. (Ex. 1013, Fig.1; Ex. 1003, ¶ 413.)



Ex. 1013, Fig. 1 (Annotated, Cropped)

However, Moinzadeh discloses an embodiment in which “even when a passenger is present the system 100 will not allow the video game application C to be displayed on the head unit 21 screen 1 as this is deemed ... too much of a distraction for a driver whereas the navigation application A can be displayed[.]” (Ex. 1013, [0026]; Ex. 1003, ¶ 414.)

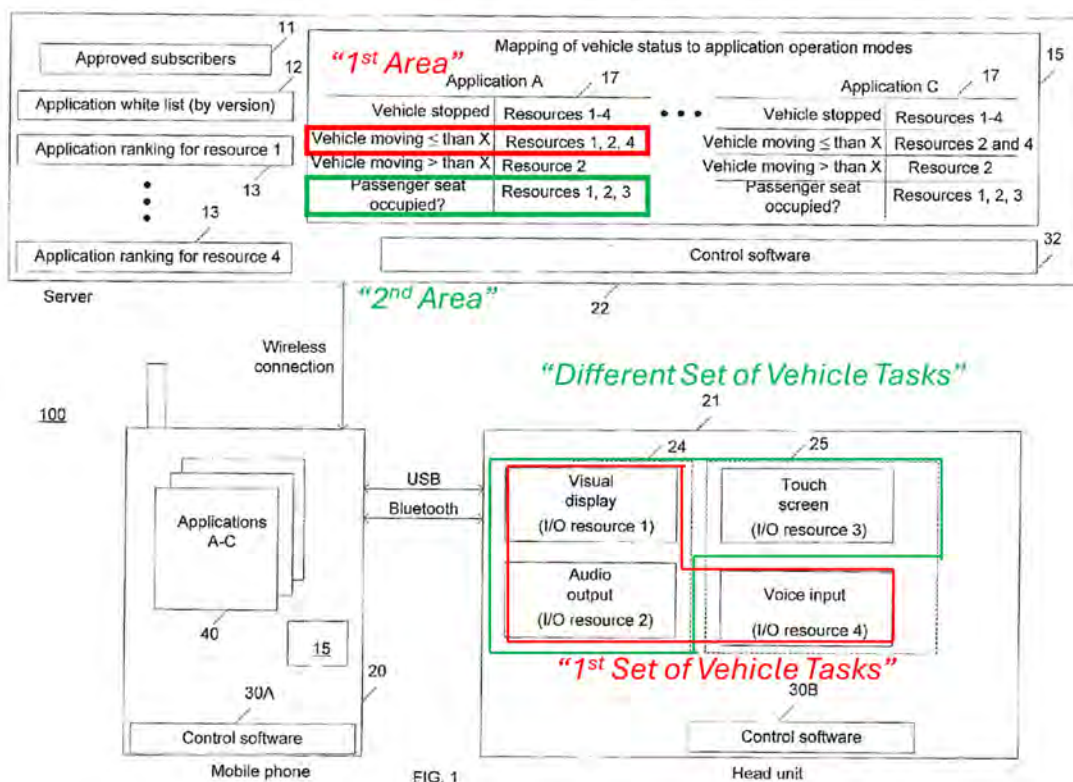
Therefore, Moinzadeh discloses “*the microprocessor executable vehicle control system applies the rules based on the account corresponding to the vehicle occupant and the area and/or zone [e.g., passenger seat] occupied by the vehicle occupant[.]*” (Ex. 1003, ¶¶ 409-415, 467-470, 499-502.)

[2.1]/[9.1]/[16.1] wherein the vehicle occupant can perform a first set of vehicle tasks, functions or operations when in a first area

and/or zone and a different set of vehicle tasks, functions, or operations when in a different second area and/or zone.

In Moinzadeh, the “vehicle occupant” “can perform a first set of vehicle tasks, functions or operations” of extending Application A to only I/O Resources 1-2 and 4 when the vehicle is moving and the “vehicle occupant” is seated in the driver’s seat (“first area and/or zone”). When the “vehicle occupant” is seated in the passenger seat (“second area and/or zone”)¹⁵, he or she can perform a “different set of vehicle tasks, functions, or operations” of extending application A to Resources 1-2 and 3. (Ex. 1003, ¶¶ 416-417, 467-470, 499-502.)

¹⁵ Moinzadeh further discloses that the mapping may consider both speed and passenger seat occupied when defining available I/O resources. (Ex. 1013, [0038].)



Ex. 1013, Fig. 1 (Annotated)

The first and second sets are different because the “*vehicle occupant*” cannot use the touch screen 25 (I/O Resource 3) when seated in the driver’s seat and can use the touch screen 25 when seated in the passenger seat. (Ex. 1013, Fig. 1; Ex. 1003, ¶ 417.)

[3.0] The method of claim 1, wherein, in step (e),

[10.0] The vehicle of claim 8, wherein

[17.0] The computer readable medium of claim 15, wherein, in function (e),

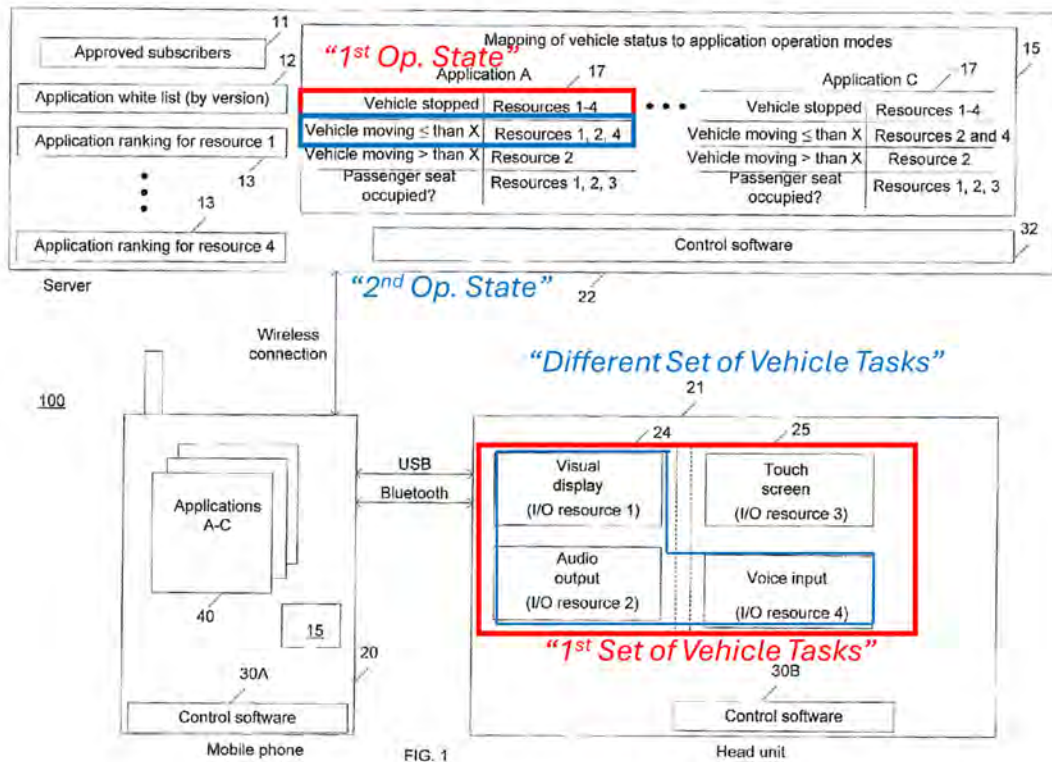
... the microprocessor executable vehicle control system applies the

***rules based on the account corresponding to the vehicle occupant
and the operating state of the vehicle and***

As discussed above in limitations [1.6]-[1.6.ii], Moinzadeh applies the rules based on if the vehicle occupant has an “*account*” and the “*operating state of the vehicle[.]*” (Ex. 1013, [0024], [0026].) Therefore, Moinzadeh discloses limitations [3.0]/[10.0]/[17.0] for the reasons discussed in claim 1. (Ex. 1003, ¶¶ 399-408, 418-421, 471-474, 503-506.)

***[3.1]/ [10.1]/[17.1] wherein the vehicle occupant can perform a first
set of vehicle tasks, functions or operations when the vehicle is in a
first operating state and a different set of vehicle tasks, functions, or
operations when the vehicle is in a second operating state.***

Moinzadeh discloses that the vehicle occupant “*can perform a first set of vehicle tasks, functions or operations*” of extending Application A to I/O Resources 1-4 when the vehicle is stopped (“*first operating state*”). Moinzadeh further discloses the vehicle occupant can perform a “*different set of vehicle tasks, functions, or operations*” of extending application A to I/O Resources 1-2 and 4 (but not 3) when the vehicle is moving (“*second operating state*”). (Ex. 1013, [0026]; Ex. 1003, ¶¶ 422-423, 471-474, 503-506.)



Ex. 1013, Fig. 1 (Annotated)

The first and second sets differ in allowing the vehicle occupant to use the touch screen 25 (I/O Resource 3) for Application A when stopped (“*first operating state*”) but not when moving (“*second operating state*”). (Ex. 1013, Fig. 1; Ex. 1003, ¶ 423.)

[4.0] The method of claim 1,

[11.0] The vehicle of claim 8,

[18.0] The computer readable medium of claim 15,

... wherein rule (i) applies and the vehicle occupant is able to control the requested vehicle task, function or operation using one

or more of a cell phone, laptop, tablet computer, and personal digital assistant.

Moinzadeh discloses the mobile phone 20 (“*cell phone*”) has “software 30A ... [that] interfaces with the software 32 configured on a remote server 22 to regulate and control when and how applications 40 operating on the phone 20 access I/O resources 1-4 of the head unit 21.” (Ex. 1013, [0021]; Ex. 1003, ¶ 426.) The vehicle occupant can control the requested “*vehicle task, function or operation*” of extending an application 40 from the mobile phone 20 to one or more I/O resources of the head unit 21. (Ex. 1013, [0023], [0028].) Moinzadeh explains the vehicle occupant can make the request from a mobile phone 20 (“*cell phone*”), e.g., “controlling the software 30A on the mobile phone 20 so that all access requests sent from the mobile phone 20 conform to the identified set of the I/O resources.” (Ex. 1013, [0028]; Ex. 1003, ¶¶ 426-427.)

Moreover, Moinzadeh discloses, “any functions described above as being performed by the software of the head unit 21 described above can alternatively be performed by the software of the mobile phone in other examples[.]” (Ex. 1013, [0042].) Therefore, the “*vehicle occupant is able to control the requested vehicle task, function or operation using one or more of a cell phone[.]*” (Ex. 1003, ¶¶ 424-429, 475-478, 507-510.)

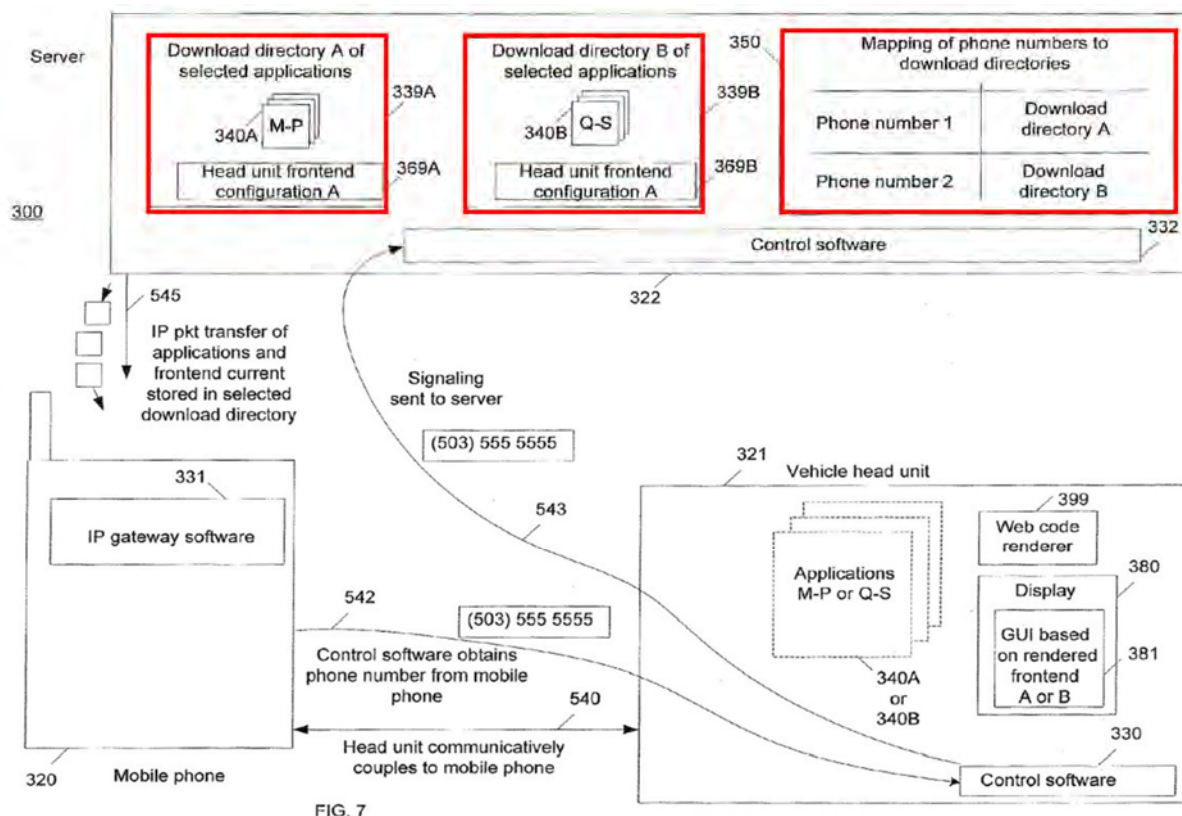
[6.0]/[20.0]

Moinzadeh discloses “*the account comprises rights and privileges for the vehicle occupant with respect to a vehicle task, function or operation*” as discussed in limitation [1.3]. (Ex. 1003, ¶¶ 372-385, 432.)

Moinzadeh discloses “*security and/or authentication requirements and/or credentials for the vehicle occupant[.]*” As discussed in limitation [1.2], the vehicle occupant has a user identifier, e.g., phone number, that is compared to the subscriber database 11 of the “*account.*” (Ex. 1003, ¶¶ 368-371.) A POSA would have considered the phone number to be a “*credential[.] for the vehicle occupant*” and would have considered the database 11 of the “*account*” as comprising “*security and/or authentication requirements*” because it has user identifications for authenticating the vehicle occupant with the system 100. (Ex. 1013, [0023]-[0024]; Ex. 1003, ¶ 433.)

Moinzadeh also discloses “*personal settings of the vehicle occupant[.]*” (Ex. 1003, ¶ 434.) Moinzadeh further discloses with reference to Figure 7, a system 300 embodiment that differs from the system 100 embodiment of Figure 1, by storing applications 340A/340B on the head unit 321. (Ex. 1013, [0066].) Moinzadeh explains that its disclosure regarding the system 100 embodiment is applicable to the system 300 embodiment, i.e., “the structures and functions of systems 100 and 200 described in FIGS. 1-6 can be combined with the structures and functions of system

300 (FIGS. 7-8) into a single system.” (Ex. 1013, [0067], *see also* [0079], Ex. 1003, ¶ 435.)



Ex. 1013, Fig. 7 (Annotated)

As boxed in red above, the system 300 includes download directories 339 that are each a collection of applications for a particular approved subscriber stored in the database 11 and include the user-selected applications 340 for download. (Ex. 1013, [0073], [0083], [0085]-[0086].) The mapping 350 links the directories to the subscribers. (Ex. 1013, [0088].) For example, directory 339A is associated with phone number 1 via the mapping 350 and includes directory 339A containing applications 340A (M-P) chosen by that user, such as by using a web portal 905 to

select applications for download. (Ex. 1013, [0073], [0083], [0088], Figs. 7, 9; Ex. 1003, ¶¶ 436-438.)

A POSA would have considered the mapping 350 and directories 339 to also be part of the “*account*” and that they further define “*rights and privileges of the user with respect to*” controlling the head unit 321 to download applications 340 from a phone 320 to the vehicle, which is “*a vehicle task, function or operation[.]*” (Ex. 1003, ¶¶ 438-439.)

The system 300 includes head unit frontend configurations 369A and 369B having “*personal settings*” for the display, such as the wallpaper and the layout of the GUI. (Ex. 1013, [0073]-[0074], [0087]; Ex. 1003, ¶¶ 440-441.) The head unit front end configurations 369A/369B are stored in the download directories 339A/339B, which are part of the “*account*” as explained above. (Ex. 1003, ¶¶ 442.)

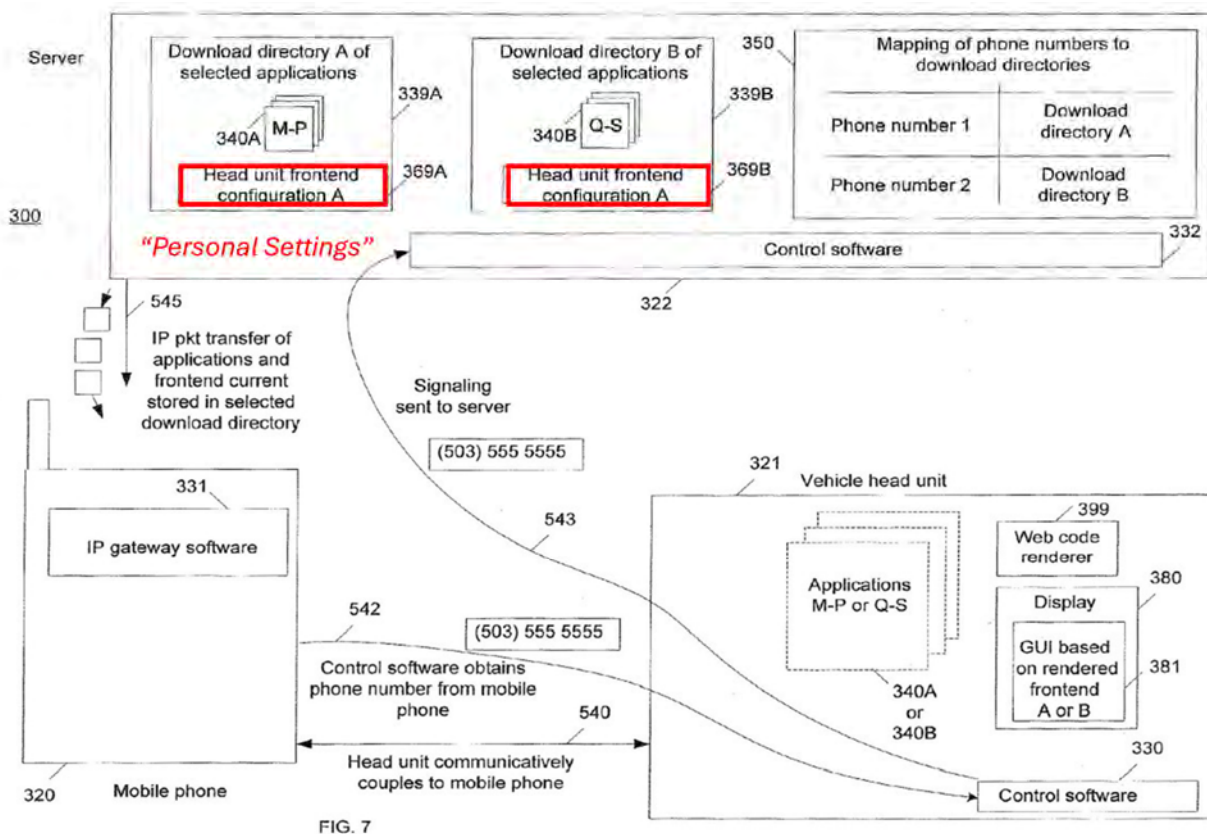


FIG. 7

Ex 1013, Fig. 7¹⁶ (Annotated)

Accordingly, Moinzadeh discloses “wherein the account comprises rights and privileges for the vehicle occupant with respect to a vehicle task, function or operation, security and/or authentication requirements [e.g., database 11] and/or credentials for the vehicle occupant [e.g., user’s phone number], and personal settings of the vehicle occupant [e.g. head unit front end configurations.]” (Ex. 1003, ¶¶ 430-443, 511-514.)

¹⁶ Element 369B is mislabeled as “Head unit frontend configuration A” instead of “Head unit frontend configuration B” in Fig. 7.

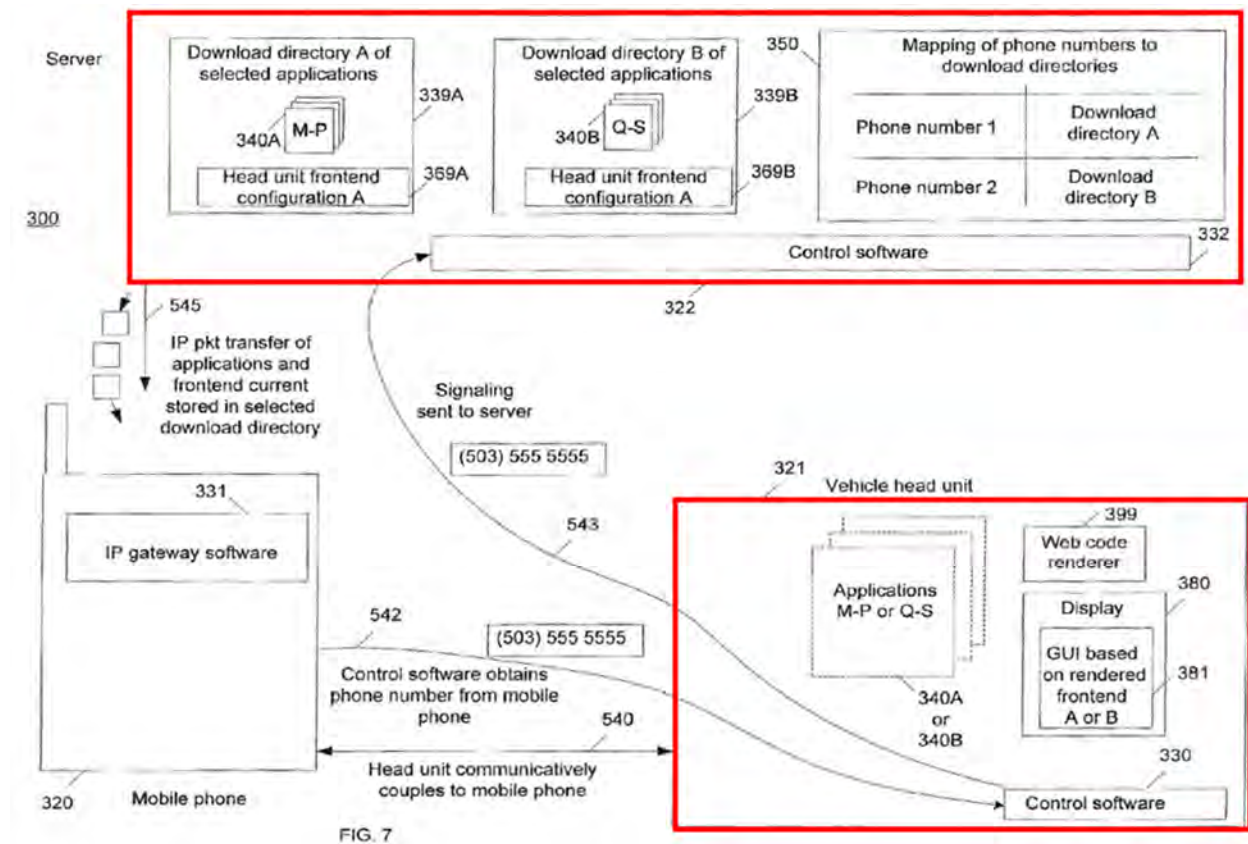
[6.1]/[20.1] wherein the vehicle task, function, or operation is one or more of the following: entertainment system and media and/or multimedia content.

As discussed in the analysis of the independent claims, Moinzadeh discloses the “*vehicle task, function, or operation*” of extending “*media and/or multimedia content*” such as a video game application (Application C). (Ex. 1013, [0026]; Ex. 1003, ¶¶ 386-392.) Therefore, [6.1]/[20.1] is disclosed by Moinzadeh as discussed above in [1.4]/[8.5]/[15.2]. (Ex. 1003, ¶¶ 444, 511-514.)

[7.0]/[14.0]

As discussed above in claim 6, Moinzadeh discloses head unit frontend configurations 369A/369B allowing customization of the display configuration such as the wallpaper and GUI. (Ex. 1013, [0074].) The frontend configurations 369A/369B thus disclose “*a display setting and configuration[.]*” (Ex. 1003, ¶ 447.)

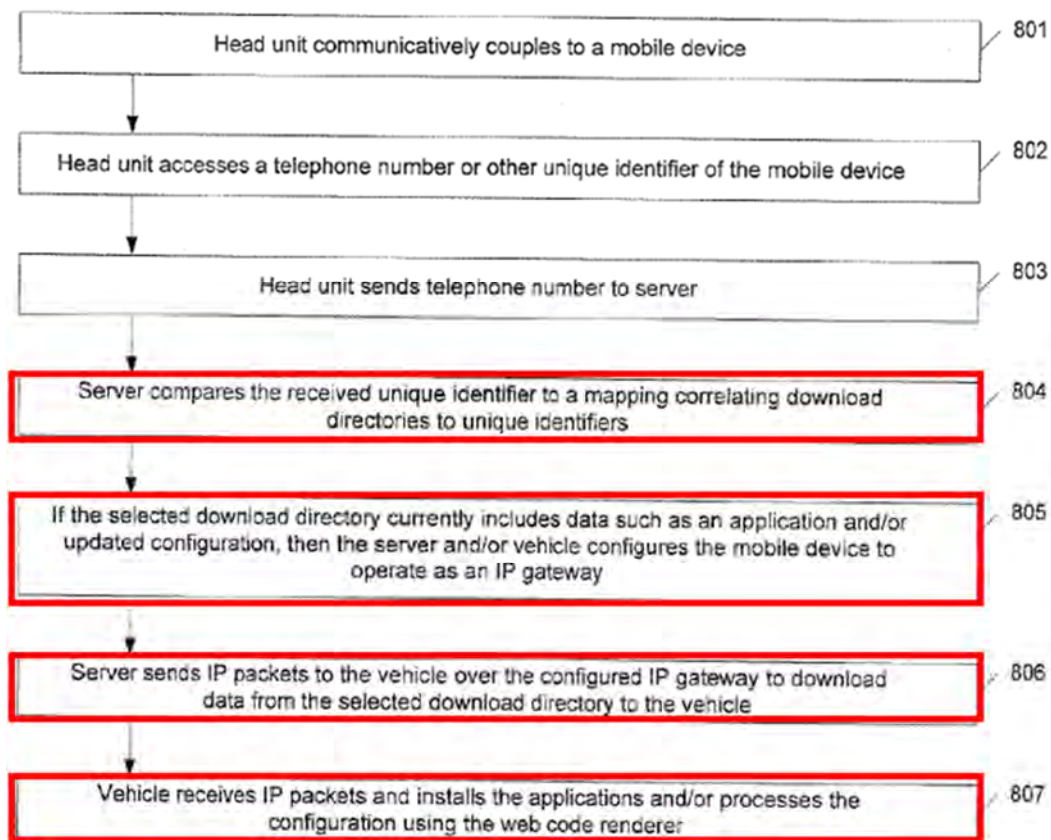
Moinzadeh further discloses the claimed “*synchronization with cloud-based data associated with the vehicle occupant.*” (Ex. 1003, ¶¶ 448, 451.) The system 300 has a cloud-based server 322 in communication with the vehicle head unit 321. (Ex. 1013, [0071], [0081]; Ex. 1003, ¶¶ 449-450.)



Ex. 1013, Fig. 1 (Annotated)

The server 322 includes download directories 339A/339B (“*cloud-based data*”) of user-selected applications that are each associated with a “*vehicle occupant*” by the mapping 350 (also “*cloud-based data*”). Directory A, for example, is associated with Phone number 1 and includes a personalized collection of that subscriber’s selected applications. (Ex. 1013, [0073], [0083]; Ex. 1003, ¶ 450.)

When the vehicle is started and the vehicle occupant is identified as a subscriber, the head unit 321 synchronizes with the download directory associated with the vehicle occupant by downloading applications of the download directory to the head unit 321. (Ex. 1013, [0075]-[0078]; Ex. 1003, ¶ 451.)



Ex. 1013, Fig. 8 (Annotated)

Therefore, the “*account*” includes “*personal settings*” for synchronizing the head unit 321 with “*cloud-based data*” (selected applications 340A/340B) associated with the “*vehicle occupant*.” (Ex. 1003, ¶¶ 445-452, 479-481.)

X. Conclusion

For the foregoing reasons, the Board should grant institution.

Respectfully submitted,

Dated: September 12, 2025

/ Andrew B. Turner /
Andrew B. Turner (Reg. No. 63,121)
John S. LeRoy (Reg. No. 48,158)
Christopher Smith (Reg. No. 59,669)
Kyle G. Konz (Reg. No. 68,910)
Brooks Kushman P.C.
150 W. Second St., Suite 400N
Royal Oak, MI 48067-3846
(248) 358-4400

Attorneys for Petitioner

Certificate of Service

The undersigned hereby certifies that the foregoing **PETITION FOR INTER PARTES REVIEW UNDER 35 U.S.C. § 311 ET SEQ. AND 37 C.F.R. § 42.100 ET SEQ. (U.S. PATENT NO. 9,123,186)**, including all exhibits and supporting evidence, was served by overnight courier in its entirety on **September 12, 2025**, upon the following correspondence address as shown for the '186 Patent:

Mr. Robert Conley Avantech Law, LLP (192827) 80 S. 8th St., Suite 900 Minneapolis, MN 55402
--

Respectfully submitted,

Dated: September 12, 2025

/ Andrew B. Turner /
Andrew B. Turner (Reg. No. 63,121)
John S. LeRoy (Reg. No. 48,158)
Christopher Smith (Reg. No. 59,669)
Kyle G. Konz (Reg. No. 68,910)
Brooks Kushman P.C.
150 W. Second St., Suite 400N
Royal Oak, MI 48067-3846
(248) 358-4400

Attorneys for Petitioner

Certificate of Compliance Pursuant to 37 C.F.R. § 42.24

This paper complies with the type-volume limitation of 37 C.F.R. § 42.24. The paper contains 13,779 words, excluding the parts of the paper exempted by §42.24(a).

This paper also complies with the typeface requirements of 37 C.F.R. § 42.6(a)(ii) and the type style requirements of § 42.6(a)(iii)&(iv).

Respectfully submitted,

Dated: September 12, 2025

/ Andrew B. Turner /
Andrew B. Turner (Reg. No. 63,121)
John S. LeRoy (Reg. No. 48,158)
Christopher Smith (Reg. No. 59,669)
Kyle G. Konz (Reg. No. 68,910)
Brooks Kushman P.C.
150 W. Second St., Suite 400N
Royal Oak, MI 48067-3846
(248) 358-4400

Attorneys for Petitioner

Appendix A

A. Listing of All Challenged Claims

[1.0]	1. A method, comprising:
[1.1]	(a) receiving, by a microprocessor executable vehicle control system, a request from a vehicle occupant to perform a vehicle task, function or operation;
[1.2]	(b) determining, by the microprocessor executable vehicle control system, that the vehicle occupant has been authenticated successfully;
[1.3]	(c) accessing, by the microprocessor executable vehicle control system, an account for the vehicle occupant, the account defining rights and privileges of the user with respect to controlling a vehicle task, function or operation,
[1.4]	wherein the vehicle task, function or operation is one or more of the following: monitoring, controlling, and/or operating an engine control unit (“ECU”), transmission control unit (“TCU”), door setting, window setting, blind spot monitor, safety equipment, vehicle sensor, vehicle engine, head light control unit, power steering, display panel, switch state control unit, power control unit, brake control unit, alert to a user and/or remote monitoring entity of a potential problem with a vehicle operation, emission control, entertainment system, and media and/or multimedia content;
[1.5]	(d) determining, by the microprocessor executable vehicle control system, at least one of an area and/or zone occupied by the vehicle occupant and an operating state of the vehicle; and
[1.6]	(e) based upon the account corresponding to the vehicle occupant and the at least one of an area and/or zone occupied by the vehicle occupant

	and an operating state of the vehicle, applying, by the microprocessor executable vehicle control system, the following rules:
[1.6.i]	(i) when the account permits the vehicle occupant to perform the requested vehicle task, function or operation, performing or causing to be performed the vehicle task, function or operation; and
[1.6.ii]	(ii) when the account does not permit the vehicle occupant to perform the requested vehicle task, function or operation, not performing or causing to be performed the vehicle task, function or operation.
[2.0]	The method of claim 1, wherein, in step (e), the microprocessor executable vehicle control system applies the rules based on the account corresponding to the vehicle occupant and the area and/or zone occupied by the vehicle occupant and
[2.1]	wherein the vehicle occupant can perform a first set of vehicle tasks, functions or operations when in a first area and/or zone and a different set of vehicle tasks, functions, or operations when in a different second area and/or zone.
[3.0]	The method of claim 1, wherein, in step (e), the microprocessor executable vehicle control system applies the rules based on the account corresponding to the vehicle occupant and the operating state of the vehicle and
[3.1]	wherein the vehicle occupant can perform a first set of vehicle tasks, functions or operations when the vehicle is in a first operating state and a different set of vehicle tasks, functions, or operations when the vehicle is in a second operating state.
[4.0]	The method of claim 1, wherein rule (i) applies and the vehicle occupant is able to control the requested vehicle task, function or operation using

	one or more of a cell phone, laptop, tablet computer, and personal digital assistant.
[5.0]	The method of claim 1, wherein a different authentication procedure is used for the vehicle occupant when requesting a first set of vehicle tasks, functions, or operations, than when requesting a second set of vehicle tasks, functions, or operations, and
[5.1]	wherein the task, function, or operation is monitoring, controlling, and/or operation a vehicle sensor,
[5.2]	the vehicle sensor being one or more of: a collision sensor, nearby object sensing system, sensor for setting a seat belt, power source controller and energy output sensor, engine temperature sensor, oil pressure sensor, hydraulic pressure sensor, sensor for headlight, sensor for other light, vehicle control system sensor, steering/torque sensor, wireless network sensor, cellular data sensor, seating system sensor, ambient (outdoor) weather reading sensor, odometer reading sensor, trip mileage reading sensor, road condition sensor, brake wear sensor, oxygen sensor, ambient lighting sensor, vision system sensor, ranging sensor, parking sensor, heating, venting, and air conditioning (HVAC) sensor, water sensor, air-fuel ratio meter, hall effect sensor, microphone, radio frequency (RF) sensor, and infrared (IR) sensor.
[6.0]	The method of claim 1, wherein the account comprises rights and privileges for the vehicle occupant with respect to a vehicle task, function or operation, security and/or authentication requirements and/or credentials for the vehicle occupant, and personal settings of the vehicle occupant and

[6.1]	wherein the vehicle task, function, or operation is one or more of the following: entertainment system and media and/or multimedia content.
[7.0]	The method of claim 6, wherein the personal settings of the vehicle occupant comprise a plurality of a seat setting, climate control setting, lighting setting, configuration of an instrument cluster on a screen, rear view mirror setting, driving mode, media channel setting or preset, media delivery preference, music genre preference, scheduled program, playlist, synchronization with cloud-based data associated with the vehicle occupant, application-specific personalization and selections, and a display setting and configuration.
[8.0]	A vehicle, comprising:
[8.1]	a microprocessor executable vehicle control system operable to:
[8.2]	receive a request from a vehicle occupant to perform a vehicle task, function or operation;
[8.3]	determine that the vehicle occupant has been authenticated successfully;
[8.4]	access an account for the vehicle occupant, the account defining rights and privileges of the user with respect to controlling a vehicle task, function or operation,
[8.5]	wherein the vehicle task, function, or operation is one or more of the following: monitoring, controlling, and/or operating an engine control unit (“ECU”), transmission control unit (“TCU”), door setting, window setting, blind spot monitor, safety equipment, vehicle sensor, vehicle engine, head light control unit, power steering, display panel, switch state control unit, power control unit, brake control unit, alert to a user

	and/or remote monitoring entity of a potential problem with a vehicle operation, emission control, entertainment s[y]stem and media and/or multimedia content;
[8.6]	determine at least one of an area and/or zone occupied by the vehicle occupant and an operating state of the vehicle; and
[8.7]	based upon the account corresponding to the vehicle occupant and the at least one of an area and/or zone occupied by the vehicle occupant and an operating state of the vehicle, apply the following rules:
[8.7.i]	(i) when the account permits the vehicle occupant to perform the requested vehicle task, function or operation, performing or causing to be performed the vehicle task, function or operation; and
[8.7.ii]	(ii) when the account does not permit the vehicle occupant to perform the requested vehicle task, function or operation, not performing or causing to be performed the vehicle task, function or operation.
[9.0]	The vehicle of claim 8, wherein the microprocessor executable vehicle control system applies the rules based on the account corresponding to the vehicle occupant and the area and/or zone occupied by the vehicle occupant and
[9.1]	wherein the vehicle occupant can perform a first set of vehicle tasks, functions or operations when in a first area and/or zone and a different set of vehicle tasks, functions or operations when in a different second area and/or zone.
[10.0]	The vehicle of claim 8, wherein the microprocessor executable vehicle control system applies the rules based on the account corresponding to the vehicle occupant and the operating state of the vehicle and

[10.1]	wherein the vehicle occupant can perform a first set of vehicle tasks, functions or operations when the vehicle is in a first operating state and a different set of vehicle tasks, functions, or operations when the vehicle is in a second operating state.
[11.0]	The vehicle of claim 8, wherein rule (i) applies and the vehicle occupant is able to control the requested vehicle task, function or operation using one or more of a cell phone, laptop, tablet computer, and personal digital assistant.
[12.0]	The vehicle of claim 8, wherein a different authentication procedure is used for the vehicle occupant when requesting a first set of vehicle tasks, functions or operations than when requesting a second set of vehicle tasks, functions, or operations, and
[12.1]	wherein the vehicle task, function or operation is one or more of the following: entertainment systems and media and/or multimedia content.
[13.0]	The vehicle of claim 8, wherein the account comprises rights and privileges for the vehicle occupant with respect to a vehicle task, function or operation, security and/or authentication requirements and/or credentials for the vehicle occupant, and personal settings of the vehicle occupant and
[13.1]	wherein the task, function or operation is monitoring, controlling, and/or operation a vehicle sensor,
[13.2]	the vehicle sensor being one or more of: a collision sensor, nearby object sensing system, sensor for setting a seat belt, power source controller and energy output sensor, engine temperature sensor, oil pressure sensor, hydraulic pressure sensor, sensor for headlight, sensor

	for other light, vehicle control system sensor, steering/torque sensor, wireless network sensor, cellular data sensor, seating system sensor, ambient (outdoor) weather reading sensor, odometer reading sensor, trip mileage reading sensor, road condition sensor, brake wear sensor, oxygen sensor, ambient lighting sensor, vision system sensor, ranging sensor, parking sensor, heating, venting, and air conditioning (HVAC) sensor, water sensor, air-fuel ratio meter, hall effect sensor, microphone, radio frequency (RF) sensor, and infrared (IR) sensor.
[14.0]	The vehicle of claim 13, wherein the personal settings of the vehicle occupant comprise a plurality of a seat setting, climate control setting, lighting setting, configuration of an instrument cluster on a screen, rear view mirror setting, driving mode, media channel setting or preset, media delivery preference, music genre preference, scheduled program, playlist, synchronization with cloud-based data associated with the vehicle occupant, application-specific personalization and selections, and a display setting and configuration.
[15.0]	A tangible and non-transient computer readable medium comprising microprocessor executable instructions to perform functions, comprising:
[15.1]	(a) receiving a request from a vehicle occupant to perform a vehicle task, function or operation,
[15.2]	wherein the vehicle task, function or operation is one or more of the following: monitoring, controlling, and/or operating an engine control unit (“ECU”), transmission control unit (“TCU”), door setting, window setting, blind spot monitor, safety equipment, vehicle sensor, vehicle

	engine, head light control unit, power steering, display panel, switch state control unit, power control unit, brake control unit, alert to a user and/or remote monitoring entity of a potential problem with a vehicle operation, emission control, entertainment system, and media and/or multimedia content;
[15.3]	(b) determining that the vehicle occupant has been authenticated successfully;
[15.4]	(c) accessing an account for the vehicle occupant, the account defining rights and privileges of the user with respect to controlling a vehicle task, function or operation;
[15.5]	(d) determining at least one of an area and/or zone occupied by the vehicle occupant and an operating state of the vehicle; and
[15.6]	(e) based upon the account corresponding to the vehicle occupant and the at least one of an area and/or zone occupied by the vehicle occupant and an operating state of the vehicle, applying the following rules:
[15.6.i]	(i) when the account permits the vehicle occupant to perform the requested vehicle task, function or operation, performing or causing to be performed the vehicle task, function or operation; and
[15.6.ii]	(ii) when the account does not permit the vehicle occupant to perform the requested vehicle task, function or operation, not performing or causing to be performed the vehicle task, function or operation.
[16.0]	The computer readable medium of claim 15, wherein, in function (e), the microprocessor executable vehicle control system applies the rules

	based on the account corresponding to the vehicle occupant and the area and/or zone occupied by the vehicle occupant and
[16.1]	wherein the vehicle occupant can perform a first set of vehicle tasks, functions or operations when in a first area and/or zone and a different set of vehicle tasks, function[s] or operations when in a different second area and/or zone.
[17.0]	The computer readable medium of claim 15, wherein, in function (e), the microprocessor executable vehicle control system applies the rules based on the account corresponding to the vehicle occupant and the operating state of the vehicle and
[17.1]	wherein the vehicle occupant can perform a first set of vehicle tasks, functions or operations when the vehicle is in a first operating state and a different set of vehicle tasks, functions, or operations when the vehicle is in a second operating state.
[18.0]	The computer readable medium of claim 15, wherein rule (i) applies and the vehicle occupant is able to control the requested vehicle task, function or operation using one or more of a cell phone, laptop, tablet computer, and personal digital assistant.
[19.0]	The computer readable medium of claim 15, wherein a different authentication procedure is used for the vehicle occupant when requesting a first set of vehicle tasks, functions, or operations than when requesting a second set of vehicle tasks, functions or operations.
[20.0]	The computer readable medium of claim 15, wherein the account comprises rights and privileges for the vehicle occupant with respect to a vehicle task, function or operation, security and/or authentication requirements and/or credentials for the vehicle occupant, and personal

	settings of the vehicle occupant and
[20.1]	wherein the vehicle task, function or operation is one or more of the following: entertainment system and media and/or multimedia content.
[21.0]	The computer readable medium of claim 20, wherein the personal settings of the vehicle occupant comprise a plurality of a seat setting, climate control setting, lighting setting, configuration of an instrument cluster on a screen, rear view mirror setting, driving mode, media channel setting or preset, media delivery preference, music genre preference, scheduled program, playlist, synchronization with cloud-based data associated with the vehicle occupant, application-specific personalization and selections, and a display setting and configuration and
[21.1]	wherein the task, function or operation is monitoring, controlling, and/or operation a vehicle sensor,
[21.2]	the vehicle sensor being one or more of: a collision sensor, nearby object sensing system, sensor for setting a seat belt, power source controller and energy output sensor, engine temperature sensor, oil pressure sensor, hydraulic pressure sensor, sensor for headlight, sensor for other light, vehicle control system sensor, steering/torque sensor, wireless network sensor, cellular data sensor, seating system sensor, ambient (outdoor) weather reading sensor, odometer reading sensor, trip mileage reading sensor, road condition sensor, brake wear sensor, oxygen sensor, ambient lighting sensor, vision system sensor, ranging sensor, parking sensor, heating, venting, and air conditioning (HVAC) sensor, water sensor, air-fuel ratio meter, hall effect sensor, microphone, radio frequency (RF) sensor, and infrared (IR) sensor.

Appendix B

A. Comparison of Independent Claims

Ind. Claim 1	Ind. Claim 8	Ind. Claim 15
[1.0] A method, comprising:	[8.0] A vehicle, comprising:	[15.0] A tangible and non-transient computer readable medium comprising microprocessor executable instructions to perform functions, comprising:
[1.1] (a) receiving, by a microprocessor executable vehicle control system,	[8.1] a microprocessor executable vehicle control system operable to: [8.2] receive	[15.1] (a) receiving
a request from a vehicle occupant to perform a vehicle task, function or operation;	a request from a vehicle occupant to perform a vehicle task, function or operation;	a request from a vehicle occupant to perform a vehicle task, function or operation,
[1.2] (b) determining, by the microprocessor executable vehicle control system,	[8.3] determine	[15.3] (b) determining
that the vehicle occupant has been authenticated successfully;	that the vehicle occupant has been authenticated successfully;	that the vehicle occupant has been authenticated successfully;
[1.3] (c) accessing, by the microprocessor executable vehicle control system,	[8.4] access	[15.4] (c) accessing
an account for the vehicle occupant, the account defining rights and	an account for the vehicle occupant, the account defining rights and	an account for the vehicle occupant, the account defining rights and

privileges of the user with respect to controlling a vehicle task, function or operation,	privileges of the user with respect to controlling a vehicle task, function or operation,	privileges of the user with respect to controlling a vehicle task, function or operation;
[1.4] wherein the vehicle task, function or operation is one or more of the following: monitoring, controlling, and/or operating an engine control unit (“ECU”), transmission control unit (“TCU”), door setting, window setting, blind spot monitor, safety equipment, vehicle sensor, vehicle engine, head light control unit, power steering, display panel, switch state control unit, power control unit, brake control unit, alert to a user and/or remote monitoring entity of a potential problem with a vehicle operation, emission control, entertainment system, and media and/or multimedia content;	[8.5] wherein the vehicle task, function, or operation is one or more of the following: monitoring, controlling, and/or operating an engine control unit (“ECU”), transmission control unit (“TCU”), door setting, window setting, blind spot monitor, safety equipment, vehicle sensor, vehicle engine, head light control unit, power steering, display panel, switch state control unit, power control unit, brake control unit, alert to a user and/or remote monitoring entity of a potential problem with a vehicle operation, emission control, entertainment s[y]stem and media and/or multimedia content;	[15.2] wherein the vehicle task, function or operation is one or more of the following: monitoring, controlling, and/or operating an engine control unit (“ECU”), transmission control unit (“TCU”), door setting, window setting, blind spot monitor, safety equipment, vehicle sensor, vehicle engine, head light control unit, power steering, display panel, switch state control unit, power control unit, brake control unit, alert to a user and/or remote monitoring entity of a potential problem with a vehicle operation, emission control, entertainment system, and media and/or multimedia content;
[1.5] (d) determining, by the microprocessor executable vehicle control system, at least one of an area and/or zone occupied by	[8.6] determine at least one of an area and/or zone occupied by	[15.5] (d) determining at least one of an area and/or zone occupied by

the vehicle occupant and an operating state of the vehicle; and	the vehicle occupant and an operating state of the vehicle; and	the vehicle occupant and an operating state of the vehicle; and
[1.6] (e) based upon the account corresponding to the vehicle occupant and the at least one of an area and/or zone occupied by the vehicle occupant and an operating state of the vehicle, applying, by the microprocessor executable vehicle control system, the following rules:	[8.7] based upon the account corresponding to the vehicle occupant and the at least one of an area and/or zone occupied by the vehicle occupant and an operating state of the vehicle, apply the following rules:	[15.6] (e) based upon the account corresponding to the vehicle occupant and the at least one of an area and/or zone occupied by the vehicle occupant and an operating state of the vehicle, applying the following rules:
[1.6.i] (i) when the account permits the vehicle occupant to perform the requested vehicle task, function or operation, performing or causing to be performed the vehicle task, function or operation; and	[8.7.i] (i) when the account permits the vehicle occupant to perform the requested vehicle task, function or operation, performing or causing to be performed the vehicle task, function or operation; and	[15.6.i] (i) when the account permits the vehicle occupant to perform the requested vehicle task, function or operation, performing or causing to be performed the vehicle task, function or operation; and
[1.6.ii] (ii) when the account does not permit the vehicle occupant to perform the requested vehicle task, function or operation, not performing or causing to be performed the vehicle task, function or operation.	[8.7.ii] (ii) when the account does not permit the vehicle occupant to perform the requested vehicle task, function or operation, not performing or causing to be performed the vehicle task, function or operation.	[15.6.ii] (ii) when the account does not permit the vehicle occupant to perform the requested vehicle task, function or operation, not performing or causing to be performed the vehicle task, function or operation.

B. Comparison of Dependent Claims

Depends from Ind. Claim 1	Depends from Ind. Claim 8	Depends from Ind. Claim 15
[2.0] The method of claim 1, wherein, in step (e), the microprocessor executable vehicle control system applies the rules based on the account corresponding to the vehicle occupant and the area and/or zone occupied by the vehicle occupant and	[9.0] The vehicle of claim 8, wherein the microprocessor executable vehicle control system applies the rules based on the account corresponding to the vehicle occupant and the area and/or zone occupied by the vehicle occupant and	[16.0] The computer readable medium of claim 15, wherein, in function (e), the microprocessor executable vehicle control system applies the rules based on the account corresponding to the vehicle occupant and the area and/or zone occupied by the vehicle occupant and
[2.1] wherein the vehicle occupant can perform a first set of vehicle tasks, functions or operations when in a first area and/or zone and a different set of vehicle tasks, functions, or operations when in a different second area and/or zone.	[9.1] wherein the vehicle occupant can perform a first set of vehicle tasks, functions or operations when in a first area and/or zone and a different set of vehicle tasks, functions or operations when in a different second area and/or zone.	[16.1] wherein the vehicle occupant can perform a first set of vehicle tasks, functions or operations when in a first area and/or zone and a different set of vehicle tasks, function[s] or operations when in a different second area and/or zone.
[3.0] The method of claim 1, wherein, in step (e), the microprocessor executable vehicle control system applies the rules based on the account corresponding to the vehicle occupant and	[10.0] The vehicle of claim 8, wherein the microprocessor executable vehicle control system applies the rules based on the account corresponding to the vehicle occupant and	[17.0] The computer readable medium of claim 15, wherein, in function (e), the microprocessor executable vehicle control system applies the rules based on the account corresponding to the vehicle occupant and

the operating state of the vehicle and	the operating state of the vehicle and	the operating state of the vehicle and
[3.1] wherein the vehicle occupant can perform a first set of vehicle tasks, functions or operations when the vehicle is in a first operating state and a different set of vehicle tasks, functions, or operations when the vehicle is in a second operating state.	[10.1] wherein the vehicle occupant can perform a first set of vehicle tasks, functions or operations when the vehicle is in a first operating state and a different set of vehicle tasks, functions, or operations when the vehicle is in a second operating state.	[17.1] wherein the vehicle occupant can perform a first set of vehicle tasks, functions or operations when the vehicle is in a first operating state and a different set of vehicle tasks, functions, or operations when the vehicle is in a second operating state.
[4.0] The method of claim 1, wherein rule (i) applies and the vehicle occupant is able to control the requested vehicle task, function or operation using one or more of a cell phone, laptop, tablet computer, and personal digital assistant.	[11.0] The vehicle of claim 8, wherein rule (i) applies and the vehicle occupant is able to control the requested vehicle task, function or operation using one or more of a cell phone, laptop, tablet computer, and personal digital assistant.	[18.0] The computer readable medium of claim 15, wherein rule (i) applies and the vehicle occupant is able to control the requested vehicle task, function or operation using one or more of a cell phone, laptop, tablet computer, and personal digital assistant.
[5.0] The method of claim 1, wherein a different authentication procedure is used for the vehicle occupant when requesting a first set of vehicle tasks, functions, or operations, than when requesting a second set of	[12.0] The vehicle of claim 8, wherein a different authentication procedure is used for the vehicle occupant when requesting a first set of vehicle tasks, functions or operations than when requesting a second set of	[19.0] The computer readable medium of claim 15, wherein a different authentication procedure is used for the vehicle occupant when requesting a first set of vehicle tasks, functions, or operations than when requesting a second set of

vehicle tasks, functions, or operations, and	vehicle tasks, functions or operations and	vehicle tasks, functions or operations.
[5.1] wherein the task, function, or operation is monitoring, controlling, and/or operation a vehicle sensor,	[13.1] wherein the task, function or operation is monitoring, controlling, and/or operation a vehicle sensor,	[21.1] wherein the task, function or operation is monitoring, controlling, and/or operation a vehicle sensor,
[5.2] the vehicle sensor being one or more of: a collision sensor, nearby object sensing system, sensor for setting a seat belt, power source controller and energy output sensor, engine temperature sensor, oil pressure sensor, hydraulic pressure sensor, sensor for headlight, sensor for other light, vehicle control system sensor, steering/torque sensor, wireless network sensor, cellular data sensor, seating system sensor, ambient (outdoor) weather reading sensor, odometer reading sensor, trip mileage reading sensor, road condition sensor, brake wear sensor, oxygen sensor, ambient lighting sensor, vision system sensor, ranging sensor, parking sensor, heating, venting, and air conditioning	[13.2] the vehicle sensor being one or more of: a collision sensor, nearby object sensing system, sensor for setting a seat belt, power source controller and energy output sensor, engine temperature sensor, oil pressure sensor, hydraulic pressure sensor, sensor for headlight, sensor for other light, vehicle control system sensor, steering/torque sensor, wireless network sensor, cellular data sensor, seating system sensor, ambient (outdoor) weather reading sensor, odometer reading sensor, trip mileage reading sensor, road condition sensor, brake wear sensor, oxygen sensor, ambient lighting sensor, vision system sensor, ranging sensor, parking sensor, heating, venting, and air conditioning	[21.2] the vehicle sensor being one or more of: a collision sensor, nearby object sensing system, sensor for setting a seat belt, power source controller and energy output sensor, engine temperature sensor, oil pressure sensor, hydraulic pressure sensor, sensor for headlight, sensor for other light, vehicle control system sensor, steering/torque sensor, wireless network sensor, cellular data sensor, seating system sensor, ambient (outdoor) weather reading sensor, odometer reading sensor, trip mileage reading sensor, road condition sensor, brake wear sensor, oxygen sensor, ambient lighting sensor, vision system sensor, ranging sensor, parking sensor, heating, venting, and air conditioning

(HVAC) sensor, water sensor, air-fuel ratio meter, hall effect sensor, microphone, radio frequency (RF) sensor, and infrared (IR) sensor.	(HVAC) sensor, water sensor, air-fuel ratio meter, hall effect sensor, microphone, radio frequency (RF) sensor, and infrared (IR) sensor.	(HVAC) sensor, water sensor, air-fuel ratio meter, hall effect sensor, microphone, radio frequency (RF) sensor, and infrared (IR) sensor.
[6.0] The method of claim 1, wherein the account comprises rights and privileges for the vehicle occupant with respect to a vehicle task, function or operation, security and/or authentication requirements and/or credentials for the vehicle occupant, and personal settings of the vehicle occupant and	[13.0] The vehicle of claim 8, wherein the account comprises rights and privileges for the vehicle occupant with respect to a vehicle task, function or operation, security and/or authentication requirements and/or credentials for the vehicle occupant, and personal settings of the vehicle occupant and	[20.0] The computer readable medium of claim 15, wherein the account comprises rights and privileges for the vehicle occupant with respect to a vehicle task, function or operation, security and/or authentication requirements and/or credentials for the vehicle occupant, and personal settings of the vehicle occupant and
[6.1] wherein the vehicle task, function, or operation is one or more of the following: entertainment system and media and/or multimedia content.	[12.1] wherein the vehicle task, function or operation is one or more of the following: entertainment system and media and/or multimedia content.	[20.1] wherein the vehicle task, function or operation is one or more of the following: entertainment system and media and/or multimedia content.
[7.0] The method of claim 6, wherein the personal settings of the vehicle occupant comprise a plurality of a seat setting, climate control setting,	[14.0] The vehicle of claim 13, wherein the personal settings of the vehicle occupant comprise a plurality of a seat setting, climate control setting,	[21.0] The computer readable medium of claim 20, wherein the personal settings of the vehicle occupant comprise a plurality of a seat setting, climate control setting,

lighting setting, configuration of an instrument cluster on a screen, rear view mirror setting, driving mode, media channel setting or preset, media delivery preference, music genre preference, scheduled program, playlist, synchronization with cloud-based data associated with the vehicle occupant, application-specific personalization and selections, and a display setting and configuration.	lighting setting, configuration of an instrument cluster on a screen, rear view mirror setting, driving mode, media channel setting or preset, media delivery preference, music genre preference, scheduled program, playlist, synchronization with cloud-based data associated with the vehicle occupant, application-specific personalization and selections, and a display setting and configuration.	lighting setting, configuration of an instrument cluster on a screen, rear view mirror setting, driving mode, media channel setting or preset, media delivery preference, music genre preference, scheduled program, playlist, synchronization with cloud-based data associated with the vehicle occupant, application-specific personalization and selections, and a display setting and configuration and
--	--	---