

Petitioner's Demonstratives

Toyota Motor Corporation
Petitioner

v.

Emerging Automotive LLC
Patent Owner

IPR2024-00786 - Patent No. 9,171,268

Topics

- Instituted grounds
- Xiao
- Undisputed facts
- Disputed issues

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Instituted Grounds

- Claims 10-20 of the '268 patent are challenged:
 - Claims 10-19: A method, comprising
 - Claim 20: A method for managing a user profile of a vehicle . . . , comprising

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
10, 11, 13, 15–19	102	Xiao ¹
10, 11, 13, 15–19	103	Xiao, Hayashi ^{2, 3}
12	103	Xiao, Patenaude ⁴
12	102	Xiao, Hayashi, Patenaude
14	103	Xiao, Singh ⁵
14	103	Xiao, Hayashi, Singh
20	103	Xiao, Hayashi, Patenaude

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Xiao Provides the Same Solution as the '268 Patent

Purported Invention

The '268 Patent discloses the Penilla brothers' inventive systems and methods allowing for, e.g., the automatic transfer of user profile settings to vehicles and the employment of a cloud processing system to manage, update, learn from, improve upon, and automatically implement a personalized vehicle-user experience in vehicles. EX1001, 1:56-5:12. The inventions of the '268 Patent offer a specific,

(POPR, 21; POR, 5)

Indeed, as the inventors recognized, “[t]he purpose of abstracting vehicle operators from the vehicle itself is *a shift from the current state of the art in which settings are vehicle specific*—each vehicle typically only having the ability to store 1-3 sets of settings, *to where vehicle settings are user specific* and 1-n logins can be managed through an access management system.” *Id.*, 12:31-36. The inventions of the '268 Patent “allow each user to apply his or her settings to any vehicle[.]” *Id.*, 12:36-39.

(POR, 14)

Xiao (Ex. 1010)

[0023] System 100 enables an operator of an automobile to use the operator's mobile device, such as a cell phone, to lock/unlock the automobile, to power on/off the automobile, or to affect other automobile operations. System 100 may also communicate with the automobile, over a network, to apply automobile system settings based on preferences contained in an operator profile. In addition, system 100 may enable an

Xiao, [0023] (Pet., 12, 44, 54, 56, 60, 63)

[0069] Operator profile information 614 may be associated with each operator on the wireless automobile key service account. Operator profile information 614 may contain information regarding the preferences of the operator for the disclosed wireless automobile key service. For example, operator profile information 614 may contain climate control system preferences for the operator for each automobile 112 on the account. As an example, the climate control preferences may include the operator's desired heating or cooling temperature settings, desired air conditioning settings, desired vent settings, desired fan speed settings, desired window or mirror defroster settings, and/or other climate preferences for the automobile(s) 112.

Xiao, [0069] (Pet., 13, 21, 22, 64, 65; Reply, 15.)

Xiao Anticipates Claim 10

Overview of Claim 10

10[pre] A method, comprising,

10[a] **receiving**, at a server, **information** for **a user profile of a user**, the user profile defining one or more settings that are preferred to be set in vehicles if the vehicles support the settings;

10[b] **identifying a selected vehicle** for applying **the user profile**, the selected vehicle having **a plurality of settable settings**, the selected vehicle being one of **a plurality of vehicles identified as available** by the server;

10[c] **determining**, by the server, **applicable settings** for the selected vehicle, the applicable settings being settings that are preferred to be set as identified from the **user profile** and are compatible with settings that are settable in the selected vehicle; and

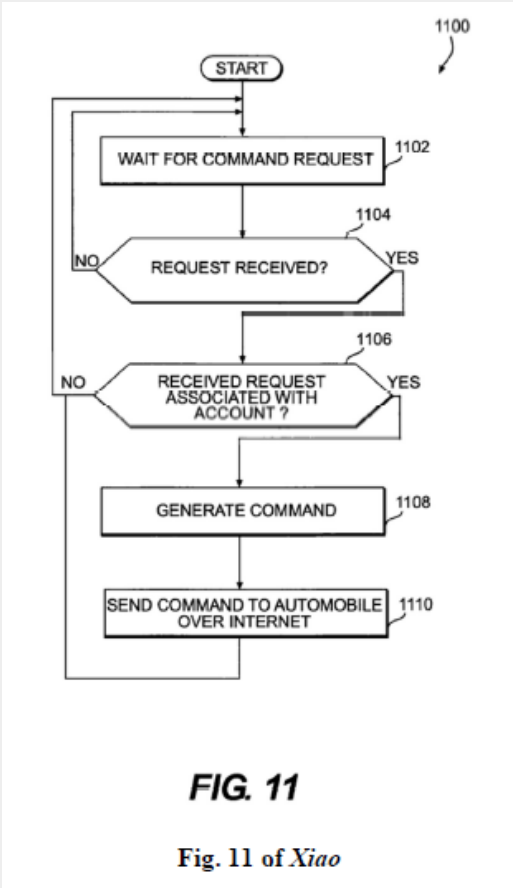
10[d] **sending**, by the server, the **applicable settings for programming** to the **selected vehicle**, wherein the **applicable settings** are **programmed** on the **selected vehicle** after receipt by the **selected vehicle** over a **wireless connection**,

10[e] wherein the method is executed by the **server**, the **server including a processor**;

10[f] wherein the **selected vehicle** includes **vehicle electronics** for **applying the programming** to cause the **applicable settings** to be activated on the selected vehicle and **communication circuitry** for communicating via the **wireless connection**.

Claim 10[preamble] (Undisputed)

“A method, comprising,”



Almeroth Dec., ¶101 (Xiao, Fig. 11)

Claim 10[a]

“receiving, at a server, information for a user profile of a user, the user profile defining one or more settings that are preferred to be set in vehicles if the vehicles support the settings;”

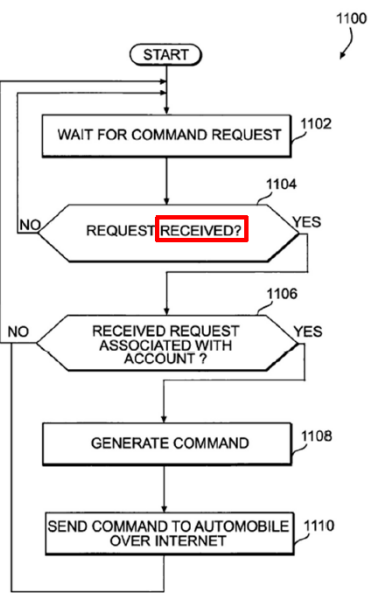


FIG. 11

Pet. 20 (Xiao, Fig. 11)

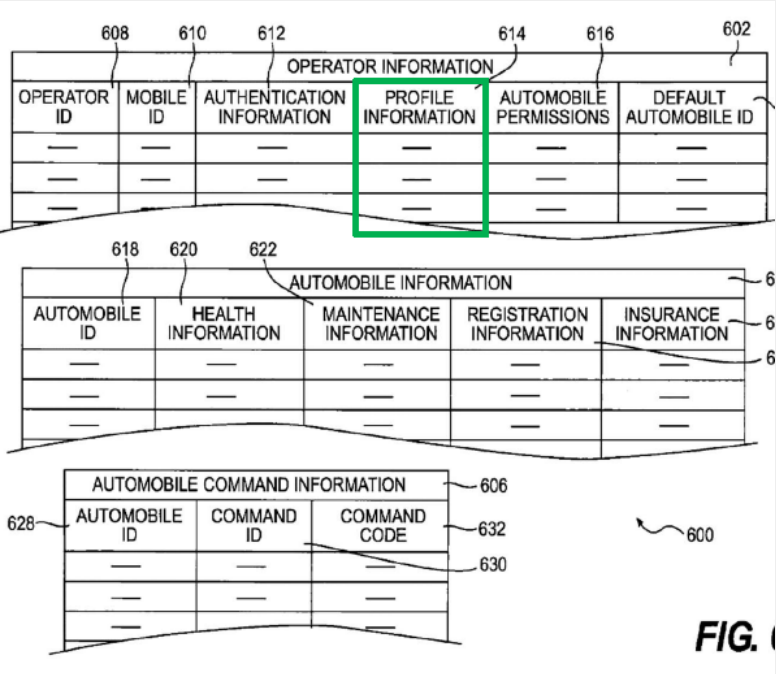


FIG. 6

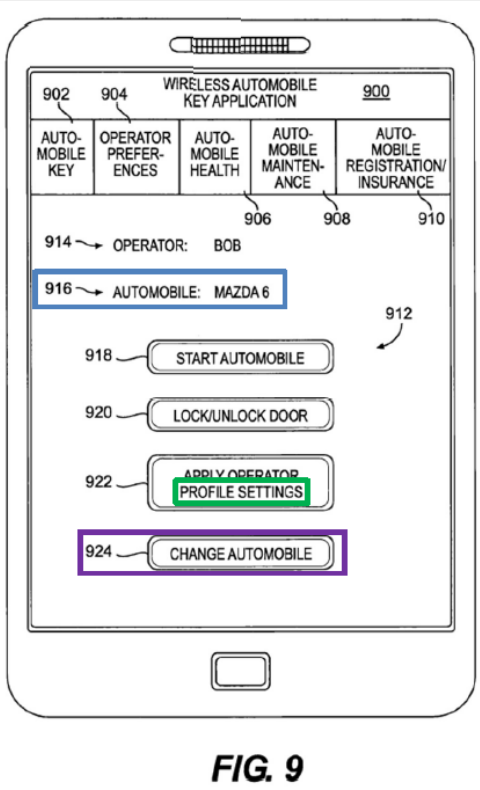
Pet. 22 (Xiao, Fig. 6)

[0124] In step 1102, server 118 may wait to receive a wireless automobile key command request from a mobile device 110 or from a terminal device 122. For example, server 118 may monitor the Internet 108 via communication interface 512 for a request from a mobile device 110 or a terminal device 122 to unlock the door of an automobile 112, to start the engine of an automobile 112, and/or to customize the settings of one or more systems of an automobile 112 based on an operator profile. In step 1104, server 118 may determine whether such a command request has been received. If a

Pet. 21 (Xiao, [0124])

Claim 10[b]

10[b] identifying a selected vehicle for applying the user profile, the selected vehicle having a plurality of settable settings, the selected vehicle being one of a plurality of vehicles identified as available by the server;



OPERATOR INFORMATION				
608 OPERATOR ID	610 MOBILE ID	612 AUTHENTICATION INFORMATION	614 PROFILE INFORMATION	AUTOMOBILE PERMISSIONS
---	---	---	---	---
---	---	---	---	---
---	---	---	---	---

AUTOMOBILE INFORMATION			
618 AUTOMOBILE ID	620 HEALTH INFORMATION	622 MAINTENANCE INFORMATION	REGISTRATION INFORMATION
---	---	---	---
---	---	---	---
---	---	---	---

AUTOMOBILE COMMAND INFORMATION		
628 AUTOMOBILE ID	COMMAND ID	630 COMMAND CODE
---	---	---
---	---	---
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Pet. 24-25 (citing Xiao, Fig. 6)

[0102] Automobile key menu 912 may also include an

the corresponding profile information 614 for the operator. As discussed above, the operator profile information 614 may identify certain desired settings of the systems of automobile 112. For example, the operator profile information 614 may indicate the operator's desired climate system settings (e.g., 80° F. cabin temperature and high fan speed), desired audio system settings (e.g., 101.1 FM, volume 10, and certain station presets 1-5), desired operator comfort settings (e.g., a certain set position and set seat warmer setting), and desired operator awareness settings (e.g., a certain rearview mirror position and certain side mirror positions).

Pet. 24 (citing Xiao, [0102])

Pet. 24 (citing Xiao, Fig. 9)

Claim 10[c]

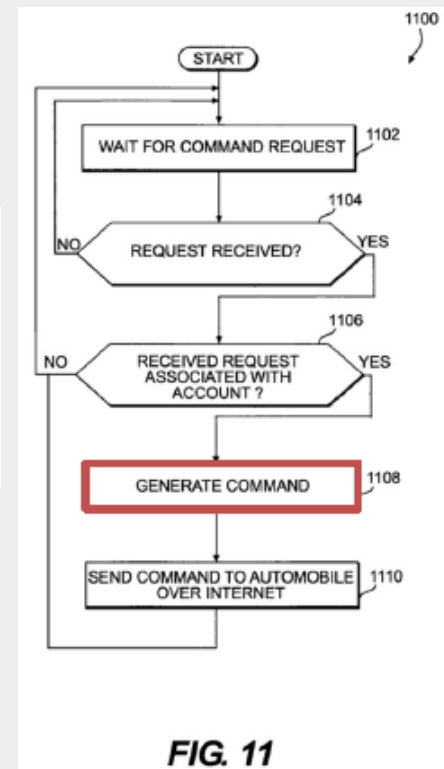
10[c] **determining**, by the server, **applicable settings** for the selected vehicle, the applicable settings being settings that are preferred to be set as identified from the **user profile** and are compatible with settings that are settable in the selected vehicle; and

[0103] Based on the desired automobile system settings indicated by the operator profile information 614, automobile service server 118 may retrieve appropriate command codes 632 for these systems from automobile command code information 606. For example, automobile service server 118 may look up appropriate command codes 632 based on the automobile ID 627 and on the command IDs 630 associated with the operator's desired system settings 614. Then, automobile service server 118 may generate one or more commands based on the retrieved command codes 632 to control the automobile systems to achieve the operator's desired settings.

Pet., 25 (citing Xiao, [0103])

[0126] If server 118 determines that the received command request is associated with an account, server 118 may generate a command for the automobile 112, step 1108. For example, server may generate a command to lock/unlock the door of the automobile 112, a command to power on/off the automobile 112, and/or a command to customize the settings one or more systems onboard the automobile 112 based on a profile associated with the operator, as described above.

Pet., 25-26 (citing Xiao, [0126])



Pet., 25 (citing Xiao, Fig. 11)

Claim 10[d] (Undisputed)

10[d] sending, by the server, the applicable settings for programming to the selected vehicle, wherein the applicable settings are programmed on the selected vehicle after receipt by the selected vehicle over a wireless connection,

[0104] Server 118 may then transmit the generated command(s) to the automobile 112 over the Internet 108. Cellular network gateway 115 may communicate the command(s) onto cellular network 114. Cellular network communication module 404 of automobile 112 may receive the commands from cellular network 114, and may broadcast corresponding command signals on automobile network 420. The appropriate onboard modules 406-418 may then execute the commands by controlling the onboard systems to achieve the operator's desired settings indicated by the profile information 614.

Pet., 28 (citing Xiao, [0104])

[0127] Then, server 118 may send the command generated in step 1108 to the automobile 112 over the Internet 108, step 1110. Specifically, server 118 may transmit the command on the Internet 108 via communication interface 512. The command may then be received at cellular network gateway 115 and transmitted on cellular network 114. The command may be received at the automobile 112 over cellular network 114 by cellular network communication module 404. Finally, cellular communication module 404 may transmit the command on automobile network 420, and the command may be received and executed by the appropriate module 406-418 onboard the automobile 112.

Pet., 28 (citing Xiao, [0127])

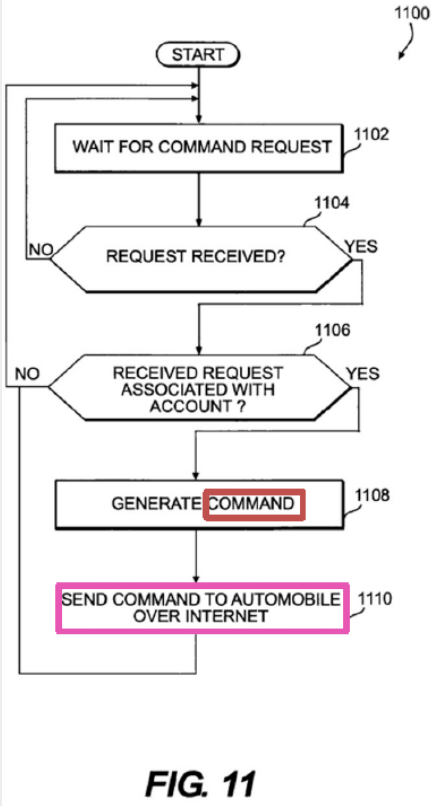
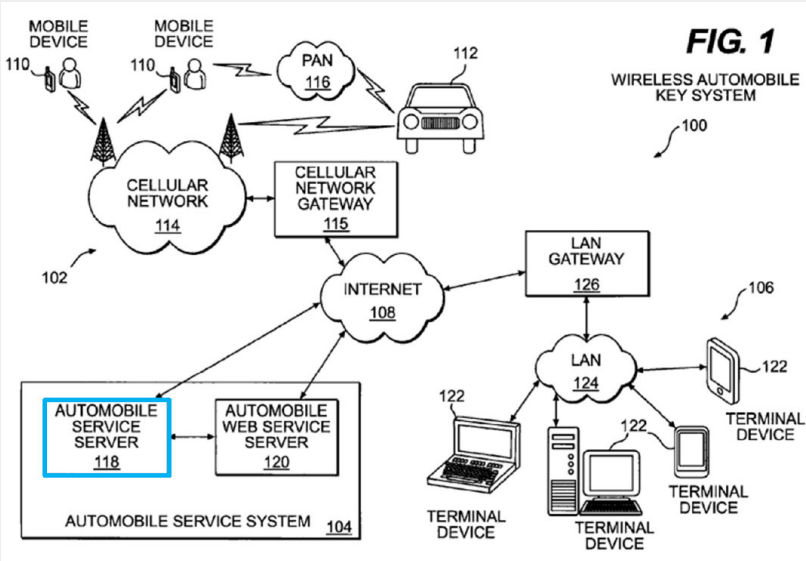


FIG. 11

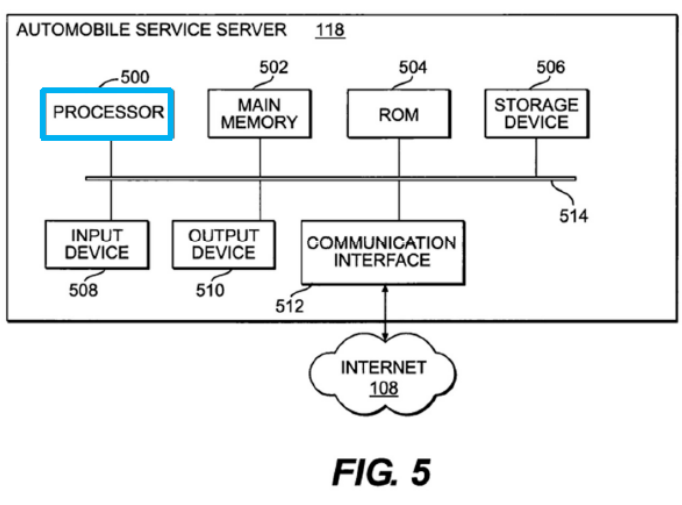
Pet., 28 (citing Xiao, Fig. 11)

Claim 10[e] (Undisputed)

10[e] wherein the method is executed by the server, the server including a processor;



Pet., 29 (citing Xiao, Fig. 1)



Pet., 30 (citing Xiao, Fig. 5)

[0059] Automobile service system 104 may represent computing infrastructure associated with an Internet service provider, a wireless service provider, a telecommunications service provider, a content service provider, or other entity that provides the disclosed wireless automobile key service. In one embodiment, automobile service system 104 may include an automobile service server 118 and an automobile web service server 120.

Pet., 29 (citing Xiao, [0059])

Claim 10[f] (Undisputed)

10[f] wherein the selected vehicle includes vehicle electronics for applying the programming to cause the applicable settings to be activated on the selected vehicle and communication circuitry for communicating via the wireless connection.

[0038] FIG. 4 illustrates an exemplary representation of an onboard automobile system 400, consistent with disclosed embodiments. As shown, in one embodiment, system 400 may include a personal area network (PAN) communication module 402, a cellular network communication module 404, a climate system control module 406, a radio system control module 408, an operator comfort system control module 410, an operator awareness system control module 412, an engine system control module 414, a security system control module 416, and a health system control module 418, interconnected by an automobile network 420. Automobile network 420 may be, for example, a controller area network (CAN) bus, an Ethernet network, or any other type of onboard automobile communication network known in the art.

[0039] In one embodiment, modules 402-418 may embody one or more computers onboard automobile 112 and configured to perform or control various automotive functions. For example, modules 402-408 may include electronic control units (ECU), such as application-specific integrated circuits (ASIC), field-programmable gate arrays (FPGA), or other types of computer processing devices known in the art. In other embodiments, however, modules 402-418 may be software modules of a computer program executing on an automobile computer.

Pet., 30 (citing Xiao, [0038])

[0088] Command information 606 may further include a command code 632 associated with each command that may be issued to the automobile 112. In one embodiment, command code 632 may be a specific code or instruction that may be broadcast on automobile network 420 and executed by a module 402-418 aboard the automobile 112 to cause the module 402-418 to perform the desired function. For example, command codes 632 may be CAN bus codes or other codes provided by the manufacturer of automobile 112 and/or the manufacturer of the automobile systems for controlling the systems to perform various functions. In one embodiment, server 118 may look up a particular command code 632 based on the automobile ID 628 and command ID 630 contained in a command request received from mobile device 110 and/or from a terminal device associated with local system 106

Pet., 31 (citing Xiao, [0088])

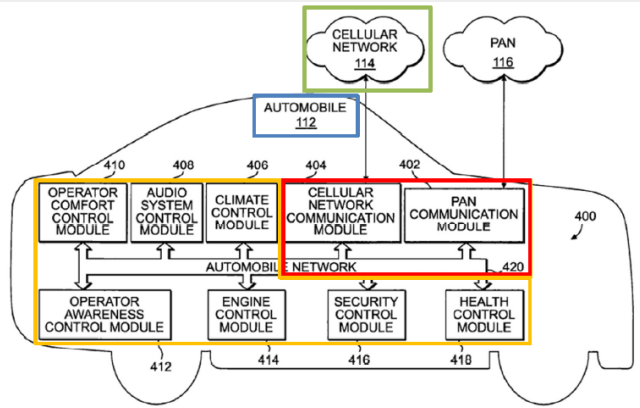


FIG. 4

Pet., 32 (citing Xiao, Fig. 4)

Topics

- Instituted grounds
- Xiao
- Undisputed facts
- Disputed issues

Undisputed Facts

- Patent Owner has not disputed:
 - The level of ordinary skill
 - That Xiao discloses limitations 10[pre], 10[d], 10[e], and 10[f]
 - That Xiao discloses the additional limitations of dependent claims 11, 13, 15, and 16
 - That Xiao in view of Singh renders obvious the additional limitations of dependent claim 14
 - That prior art discloses or renders obvious limitations 20[pre], 20[c], 20[d], 20[e]

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Disputed Issues

- Claim 10's Lack of Compatibility Check; Prior Art Disclosure of Same for Claims 10 and 20
- Claim 10's Lack of Required Order; Prior Art Disclosure of Same
- Xiao's "User Profile" (claim 10)
- Xiao's "Sub-user Accounts" (claims 17-19)
- Petition's Combination of Xiao and Patenaude (claim 12[c])
- Petition's Combination of Xiao and Patenaude (claim 20[b])

Disputed Issues

- Claim 10's Lack of Compatibility Check; Prior Art Disclosure of Same for Claims 10 and 20
- Claim 10's Lack of Required Order; Prior Art Disclosure of Same
- Xiao's "User Profile" (claim 10)
- Xiao's "Sub-user Accounts" (claims 17-19)
- Petition's Combination of Xiao and Patenaude (claim 12[c])
- Petition's Combination of Xiao and Patenaude (claim 20[b])

Claim 10 does not require performance of a “compatibility check”

10[pre] A method, comprising,

10[a] receiving, at a server, information for a user profile of a user, the user profile defining one or more settings that are preferred to be set in vehicles if the vehicles support the settings;

10[b] identifying a selected vehicle for applying the user profile, the selected vehicle having a plurality of settable settings, the selected vehicle being one of a plurality of vehicles identified as available by the server;

10[c] determining, by the server, applicable settings for the selected vehicle, the applicable settings being settings that are preferred to be set as identified from the user profile and are compatible with settings that are settable in the selected vehicle; and

10[d] sending, by the server, the applicable settings for programming to the selected vehicle, wherein the applicable settings are programmed on the selected vehicle after receipt by the selected vehicle over a wireless connection,

10[e] wherein the method is executed by the server, the server including a processor;

10[f] wherein the selected vehicle includes vehicle electronics for applying the programming to cause the applicable settings to be activated on the selected vehicle and communication circuitry for communicating via the wireless connection.

The Board considered EA’s “compatibility check” argument

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

Patent Owner’s argument that Xiao fails to “perform a compatibility check” (Prelim. Resp. 37) is unpersuasive at this stage in the proceeding because claim 1 does not appear to require performance of a compatibility check. Rather, it recites “determining applicable settings,” where the applicable settings are “compatible with settings that are settable in the selected vehicle.” Ex. 1001, 33:10–14. Patent Owner’s position appears to be that the plain language of the claims includes the requirement it advocates (*see* Prelim. Resp. 31–33), but we disagree. If Patent Owner believes that this claim language is properly construed to require performance of a particular compatibility check, then Patent Owner should specify its proposed claim construction and identify any support in the intrinsic record. *Cf.* Prelim. Resp. 24–28 (summarizing prosecution history), 41 (providing conclusory assertion that a compatibility check is required based on string cite).

I.D., 28

Claim 10 differs from claim 20

10[c] determining, by the server, applicable settings for the selected vehicle, the applicable settings being settings that are preferred to be set as identified from the user profile and are compatible with settings that are settable in the selected vehicle; and

20[a] accessing the cloud processing system by the vehicle, the user profile having user settings for the vehicle, wherein certain of the user settings are determined to be compatible for use with the vehicle

The prosecution history illustrates Applicant's intention to capture different claim scope

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Angel A. Penilla

Application No: 14/050,314

Filed: October 9, 2013

For: Methods and Systems for Setting and Transferring User Profiles To Vehicles and Temporary Sharing of User Profiles to Shared-Use Vehicles

Group Art Unit: 2859

Examiner: Yalkew Fantu

Atty. Docket No: VOLTP018.5.C1

Date: Aug. 19, 2015

Conf. No. 1060

AMENDMENT

Rejection under 35 USC 102

Claims **1, 10, and 20** were rejected under 35 USC 102(b) over Hendrix et al. (US 2012/0330494). This rejection was maintained and was made final. This rejection is again traversed. The amendments made were to clarify the way in which

...

Independent claim 10 was also amended to clarify the determining, by the server, of applicable settings for the selected vehicle. As now claimed, the applicable settings are settings that are preferred to be set as identified from the user profile and are **compatible** with settings that are settable in the selected vehicle. In addition, claim 10 was amended for provide more clarity regarding the programming to cause the applicable settings to be activated. Claim 20 was also amended for clarity. Claim 20 was also amended to recite that certain of the user settings are determined to be **compatible** for use with the vehicle. As described in the specification, the user profile may have many preferences for settings, and some of such settings are usable on certain vehicles, depending on whether they support such setting. See e.g., ¶018. As noted in the response to the non-final Office action, Hendrix does not teach the transfer of user profiles to vehicles. And for this reason, Hendrix does not teach to perform any compatibility between settings in the user profile against settings available on the specific vehicle.

Ex. 1002, 203

Ex. 1002, 190

Toyota addressed EA's IPR “compatibility check” in district court

DEFENDANTS' RESPONSIVE CLAIM CONSTRUCTION BRIEF

In the '268 patent IPR, EA asserted that claim 10 requires *the server* to “determin[e] compatibility between settings in the user profile against settings available on the specific vehicle,” '268 POPR, 2–3, 30. EA's statements in the IPR are binding against it in the district court. *CUPP Computing AS v. Trend Micro Inc.*, 53 F.4th 1376, 1383 (Fed. Cir. 2022). To resolve the issues in dispute here, Toyota agrees that the server / cloud based system performs the compatibility check. Toyota further contends that the compatibility check must determine which settings that are preferred to be set as identified from the user profile are able to be set in the selected vehicle. EA appears to agree with this proposition also. *Id.*

To be clear, claim 10 does not recite *the server* actively determining that the applicable settings are “compatible.” Toyota does not agree that the plain and ordinary language of claim 10 requires *the server* to perform a compatibility check, but for simplicity in this litigation only, Toyota believes the parties should be able to agree on constructions for term 13.

Defendants' Responsive Claim Construction Brief, EX2017, 35-36

Toyota's positions are consistent with Federal Circuit precedent



“A rule permitting a patentee to tailor its claims in an IPR through argument alone would substantially undermine the IPR process. . . . If patentees could shapeshift their claims through argument in an IPR, they would frustrate the Patent Office's power to ‘revisit’ the claims it granted, and require focus on claims the patentee now wishes it had secured. . . . To be clear, a disclaimer in an IPR proceeding is binding in later proceedings, whether before the PTO or in court.”

CUPP Computing AS v. Trend Micro Inc., 53 F.4th 1376, 1383 (Fed. Cir. 2022).

Here, Patent Owner made a clear, unmistakable disclaimer in the POPR:

For Grounds 2, 3b, 4b, and 5, Petitioner adds *Hayashi* in an attempt to cure *Xiao*'s deficiencies regarding the server determining compatibility requirements of each challenged claim. As discussed in Sections III.E. and III.F, above, both independent claims 10[c] and 20[a] require this “check for compatibility of settings”:

POPR, 48

The district court addressed the parties' positions

CLAIM CONSTRUCTION ORDER

The parties agree these claims require a “compatibility check.” Toyota says the check must also “determine which settings that are preferred to be set as identified from the user profile are able to be set in the selected vehicle.” Dkt. No. 134 at 28. Although this language is already in Claim 10, it is not in Claim 20. Toyota, however, fails to cite any evidence that says Claim 20 should also include this requirement. *See id.* at 28–29. Nor does Toyota set forth any basis for disclaimer. Accordingly, the Court will give these terms “plain and ordinary meaning” constructions.

Claim Construction Order, EX2018, 29-30

Xiao discloses the claimed “compatibility”

[0103] Based on the desired automobile system settings indicated by the operator profile information 614, automobile service server 118 may retrieve appropriate command codes 632 for these systems from automobile command code information 606. For example, automobile service server 118 may look up appropriate command codes 632 based on the automobile ID 627 and on the command IDs 630 associated with the operator’s desired system settings 614. Then, automobile service server 118 may generate one or more commands based on the retrieved command codes 632 to control the automobile systems to achieve the operator’s desired settings. Continuing with the example above, server 118 may generate a command to control the climate system to heat the automobile 112 to 80° F. and to set a high fan speed; a command to control the audio system to play 101.1 FM at volume 10, and to apply the operator’s desired station presets; a command to control the comfort system to move the driver’s seat to the desired position, and to set the seat warmer to high; and a

Reply, 12 (Xiao, [0103])

[0111] Server 118 may then transmit to mobile device 110 (or terminal device 122) the automobile IDs 618 associated with the identified automobiles 112. Then, mobile device 110 (or terminal device 112) may display an automobile selection menu (not shown) allowing the operator to select a new automobile 112 from among the identified automobiles 112. Subsequently, the operator may be able to perform the various automobile key service with respect with the selected new automobile 112. For example, the operator may start the new automobile 112 using UI element 918, may lock/unlock the door of the new automobile 112 using UI element 920, and may apply the preferences indicated in the operator profile information 614 to the systems of the new automobile 112 using UI element 922. In addition, the operator may view and/or change the operator profile information 614 for the new automobile 112 by selecting UI element 904. The operator may also view health information 620, maintenance information 622, registration information 624, and/or insurance information 626 associated with the new automobile 122 by respectively selecting UI elements 906, 908, and 910.

Reply, 12 (Xiao, [0111])

Xiao discloses the claimed “compatibility”

**DECLARATION OF KEVIN C. ALMEROOTH, PH.D.
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 9,171,268**

96. *Xiao* demonstrates the concept of “compatibility” of certain settings by disclosing “appropriate command codes” being sent to appropriate automobile modules. *Id.* at ¶¶ [0103]-[0104]. *Xiao* explains its server generates or retrieves “appropriate command codes 632” corresponding to an operator’s desired settings and a particular vehicle. *Id.* at ¶ [0103]. For example, Fig. 6 (discussed above) includes a table of automobile command code information 606 with entries for each of an automobile ID 628, a command ID 630 (which is “associated with the operator’s desired system settings 614”), and an appropriate command code 632. *Id.* These command codes 632 are “associated with each command that may be issued to the automobile 112.” *Id.* at ¶ [0088]. By listing them in the table of automobile command code information 606, *Xiao* shows that there are particular settings compatible with particular automobiles and particular desired settings. Thus, *Xiao* demonstrates the necessarily present characteristic that certain settings (e.g., commands) are compatible with certain automobiles.

Declaration of Dr. Kevin Almeroth, EX1009, ¶96

Xiao discloses the claimed “compatibility”

DECLARATION OF KEVIN C. ALMEROOTH, PH.D.
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 9,171,268

122. *Xiao* explains that command IDs 630 are “associated with the operator’s desired system settings 614.” *Id.* at ¶ [0103]. The “server 118 may look up a particular command code 632 based on the automobile ID 628 and command ID 630 contained in a command request received from mobile device 110 and/or from a terminal device associated with local system 106.” *Id.* at ¶ [0088]. These command codes 632 are used to “control the automobile systems to achieve the operator’s desired settings.” *Id.* at ¶ [0103]; *see also id.* at ¶ [0104] (“The appropriate onboard modules 406-418 may then execute the commands by controlling the onboard systems to achieve the operator’s desired settings indicated by the profile information 614.”).

Almeroth Dec., ¶¶ 122

Xiao discloses the claimed “compatibility”

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IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF
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123. That is, for a particular setting (e.g., desired radio station of 101.1 FM at volume 10), *Xiao* looks up, for a particular vehicle, “a command to control the audio system to play 101.1 FM at volume 10.” *Id.* at ¶ [0103].

124. Such a setting is compatible with the selected vehicle (e.g., the currently selected automobile 112) because it is usable on the vehicle. *See* Ex. 1002 at 203 (Patent Owner emphasizing the importance of the “compatibility” feature in distinguishing over the art cited in prosecution, arguing that “[a]s described in the specification, the user profile may have many preferences for settings, and some of such settings are *usable* on certain vehicles . . .”).

125. Like Patent Owner’s own characterization of claim 10, *Xiao* discloses applicable settings are “compatible with settings that are settable in the selected vehicle.” By virtue of, for example, listing a command code 632 for a particular automobile ID 628 in the table of Fig. 6, *Xiao* demonstrates that the vehicle (corresponding to automobile ID 628 in that cell) is compatible with a preferred setting (command IDs 630 being “associated with the operator’s desired system settings 614”). *See* Ex. 1010 at ¶ [0103].

Almeroth Dec., ¶¶ 123-125

It would have been obvious to combine Hayashi's tables with Xiao's system of automatable commands

**DECLARATION OF KEVIN C. ALMEROOTH, PH.D.
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF
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191. There are a limited number of options available for providing a listing of appropriate command codes, as in *Xiao*. For example, for any given vehicle, a command either has a corresponding command code, or it does not. Modifying *Xiao* would be as straightforward as providing an indication such as “none” in the tables of Fig. 6 of *Xiao* rather than, for example, an empty cell where there is no corresponding command code. *Xiao* states that its tables are “an exemplary representation of wireless automobile key service information 600 stored in storage device 506.” *Id.* at ¶ [0065]. This includes command information 606, which contains “a command code 632 associated with each command that may be issued to the automobile 112.” *Id.* at ¶ [0088]. A POSA would have looked to *Hayashi*'s method of determining settings as compatible/incompatible and providing an indication of the same, as an example of how to provide a listing of appropriate command codes.

Almeroth Dec., ¶191

Xiao and Hayashi render obvious EA's "compatibility check"

[0029]

FIG. 6 illustrates an example of a DB [database] of operating methods according to vehicle model. DB of operating methods according to vehicle model 134 stores operating methods for each function according to vehicle model. In the FIG. 6 example, the operating method for "function 1" for "vehicle model α " is "operating method X." If a certain "vehicle model" does not have a certain "function," "none" may be stored in the DB of operating methods according to vehicle model 134 as the operating method for the "function" for the "vehicle model," for example.

Pet., 46 (citing Hayashi, [0029])

[0120]

If the "engine is started" vehicle state is stored in function information DB 234 (S502; YES), scene determination portion 212 extracts a function corresponding to "engine started" from function information DB 234. This extracted function is a function to be guided in the current vehicle state. Here, for example, it is assumed that a shift lever, parking brake, seat adjustment function, or mirror adjustment function are extracted.

Pet., 46 (citing Hayashi, [0120])

Operating Method by Vehicle Model				
	Model α	Model β	Model γ	...
Function 1	Op. Meth. X	Op. Meth. X	Op. Meth. Y	...
Function 2	Op. Meth. P	Op. Meth. Q	Op. Meth. R	...
Function 3	Op. Meth. S	Op. Meth. T	Op. Meth. T	...
...	...	...	...	...

134

Pet., 47 (citing Hayashi, Fig. 6)

Xiao and Hayashi render obvious Patent Owner’s “compatibility check”

**DECLARATION OF KEVIN C. ALMEROOTH, PH.D.
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 9,171,268**

195. *Hayashi* also demonstrates the concept of compatibility determination by remarking that “[i]f a certain ‘vehicle model’ does not have a certain ‘function,’ ‘none’ may be stored . . . as the operating method” *Id.* at ¶ [0029], Fig. 6. This can be visualized as follows:

Operating Method by Vehicle Model				
	Model α	Model β	Model γ	Model δ
Function 1	Op. Meth. X	Op. Meth. X	Op. Meth. Y	Op. Meth. X
Function 2	Op. Meth. P	Op. Meth. Q	Op. Meth. R	None
Function 3	Op. Meth. S	Op. Meth. T	Op. Meth. T	Op. Meth. T
Function 4	Op. Meth. Z	Op. Meth. W	None	Op. Meth. Z

Annotated Fig. 6 of *Hayashi* (annotations in blue)

Almeroth Dec., ¶195

As shown, “function 4” is incompatible with vehicle model γ, and thus, “none” is listed as the operating method. Likewise, “function 2” is incompatible with vehicle model δ, and thus, “none” is listed as the operating method. Thus, there may be a variety of vehicles, which may have operating methods the same or different from one another for certain functions, demonstrating their compatibility. Or, some vehicles may simply be incompatible with certain functions. A POSA would have considered it useful to have a database indicating which vehicles are compatible/incompatible with respective functions/operating methods, as in *Hayashi*.

Almeroth Dec., ¶195 (cont.)

Xiao and Hayashi are analogous art

DECLARATION OF KEVIN C. ALMEROTH, PH.D. IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 9,171,268

192. Additionally, both *Xiao* and *Hayashi* are analogous art to the '268 patent because the references are from the same field of endeavor (i.e., applying settings to automobiles based on user preferences); and/or (2) the references are reasonably pertinent to the problem faced by the inventor (i.e., improving convenience for users to apply settings to automobiles). *See, e.g.*, Ex. 1001 at 12:31-45 (“The purpose of abstracting vehicle operators from the vehicle itself is a shift from the current state of the art in which settings are vehicle specific The embodiments defined herein allow each user to apply his or her settings to any vehicle”); 21:31-62 (“ . . . regardless of the vehicle that the user chooses to drive. This is in contrast to current models that customize settings for one vehicle owner This is especially useful for cases where a user drives many cars, but wishes to keep his settings constant.”). For example, *Xiao* states that there may be

Almeroth Dec., ¶192

multiple “automobiles” that an operator can use, and that setting-applying commands can be issued to “a variety of types [of] automobiles 112 made by different manufacturers.” Ex. 1010 at ¶¶ [0022], [0024], [0085]. *Hayashi* explains that vehicles may be equipped with various systems to achieve certain functionality, but “the operating methods for these functions depends on the vehicle model, model year, etc. of the vehicle.” Ex. 1013 at ¶ [0002]. *Hayashi* aims to address a driver’s unfamiliarity with the systems of particular vehicles by providing guidance to enable the driver to achieve certain desired functions that are compatible with the vehicle he or she is driving. *Id.* at ¶ [0004]. Thus, both *Xiao* and *Hayashi* are pertinent to the issue of improving convenience by reducing distractions for users to apply their preferred settings to the same or different automobiles.

Almeroth Dec., ¶192 (cont.)

Disputed Issues

- Claim 10's Lack of Compatibility Check; Prior Art Disclosure of Same for Claims 10 and 20
- Claim 10's Lack of Required Order; Prior Art Disclosure of Same
- Xiao's "User Profile" (claim 10)
- Xiao's "Sub-user Accounts" (claims 17-19)
- Petition's Combination of Xiao and Patenaude (claim 12[c])
- Petition's Combination of Xiao and Patenaude (claim 20[b])

Claim 10 does not require a sequential order of steps

10[pre] A method, comprising,

- 10[a] **receiving**, at a server, **information** for a user profile of a user, the user profile defining one or more settings that are preferred to be set in vehicles if the vehicles support the settings;
- 10[b] **identifying a selected vehicle** for applying the user profile, the selected vehicle having a plurality of settable settings, the selected vehicle being one of a plurality of vehicles identified as available by the server;
- 10[c] **determining**, by the server, **applicable settings** for the selected vehicle, the applicable settings being settings that are preferred to be set as identified from the user profile and are compatible with settings that are settable in the selected vehicle; and
- 10[d] sending, by the server, the applicable settings for programming to the selected vehicle, wherein the applicable settings are programmed on the selected vehicle after receipt by the selected vehicle over a wireless connection,
- 10[e] wherein the method is executed by the server, the server including a processor;
- 10[f] wherein the selected vehicle includes vehicle electronics for applying the programming to cause the applicable settings to be activated on the selected vehicle and communication circuitry for communicating via the wireless connection.

Claim 10 does not require a sequential order of steps

- In *Interactive Gift*:
 - First “step” of the claimed method:
 - “providing . . . information to be reproduced to the information manufacturing machine [IMM], each information being uniquely identified by a catalog code.” (US 4,528,643, Claim 1)
 - Fourth “step” of the claimed method:
 - “receiving the request reproduction code and the authorization code at the [IMM] and reproducing in a material object the information identified by the catalog code . . . in response to the authorization code authorizing such reproduction.” (US 4,528,643, Claim 1)



“Unless the steps of a method actually recite an order, the steps are not ordinarily construed to require one.”

“Looking at the claim language, **there is no reason why step one’s ‘providing’ of information to the IMM must occur before step four’s ‘receiving the request reproduction code.’** . . . Logically, **information could be sent after a request is made.**”

Interactive Gift Express Inc. v. Compuserve Inc., 256 F.3d 1323, 1342-43 (Fed. Cir. 2001) (emphasis added)

Claim 10 does not require a sequential order of steps

	'268 Patent Limitations, Claim 10	Claim Limitations Considered in <i>Interactive Gift</i>
First Limitation	10[a] receiving, at a server, information for a user profile of a user, the user profile defining one or more settings that are preferred to be set in vehicles if the vehicles support the settings;	“providing . . . information to be reproduced to the information manufacturing machine [IMM], each information being uniquely identified by a catalog code .” (US 4,528,643, Claim 1)
Later Limitation	10[b] identifying a selected vehicle for applying the user profile , the selected vehicle having a plurality of settable settings, the selected vehicle being one of a plurality of vehicles identified as available by the server;	“receiving the request reproduction code and the authorization code at the [IMM] and reproducing in a material object the information identified by the catalog code . . . in response to the authorization code authorizing such reproduction.”



“Thus, because the steps of claim 1 need not be performed in order, **claim 1 does not require predelivery and/or prestorage of the **information**.**”

Interactive Gift Express Inc. v. Compuserve Inc., 256 F.3d 1323, 1344 (Fed. Cir. 2001) (emphasis and annotation added)

Claim 10 does not require a sequential order of steps

- In *Altiris*:
 - First “step” of the claimed method:
 - “testing automatically for automation boot sequence data, said test including reading a boot selection flag and comparing said boot selection flag with a known flag setting.” (US 5,764,593, Claim 1)
 - Fifth “step” of the claimed method:
 - “setting said boot selection flag;” (US 5,764,593, Claim 1)
 - Sixth “step” of the claimed method:
 - “booting normally, if said testing automatically step indicates a normal boot sequence.” (US 5,764,593, Claim 1)



“In the case before us, nothing in the intrinsic evidence indicates that the ‘setting’ step must be performed before the ‘booting normally’ step. Beginning with the claim language, it neither grammatically nor logically indicates that the ‘setting’ step must occur in a particular order compared to the other steps. **The only order mandated by the claim language is the conditional language** in several of the steps, indicating that they must be performed after the ‘testing’ step.”

Altiris, Inc. v. Symantec Corp., 318 F.3d 1363, 1369-70 (Fed. Cir. 2003) (emphasis added)

Patent Owner never argued in the district court that claim 10 requires a sequential order of steps

From: Jerry Tice <jtice@bdiplaw.com>
Sent: Thursday, September 12, 2024 5:34 PM
To: Barney, James; ToyotaEA; Michael Smith
Cc: Emerging Auto - Toyota; Andrea Fair
Subject: Emerging Automotive v. Toyota - No. 2:23-cv-00437-JRG (Lead) (EDTX)

 External email >

Counsel,

Pursuant to P.R. 4-1, Emerging Auto does not identify any terms that should be construed.



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Ex. 1021, 1

Patent Owner emphasized one embodiment before the district court

CLAIM CONSTRUCTION HEARING
BEFORE THE HONORABLE ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE

And then the third kind of issue we take with the definition is that we disagree that the server is required to identify this selected vehicle. As we showed in Figure 7 on the ELMO, there's multiple things that identify the selected vehicle. When Bob walks up to the car, he identifies and selects the vehicle. Bob's device identifies the selected vehicle, and the server also identifies the selected vehicle and that Bob's device sends the information to the server.

Ex. 1022, 79:17-25

THE COURT: And so tell me again the other devices that you would contend identify the selected vehicle in Claim 10.

MR. TICE: Yes, Your Honor.

One would be Bob's device. In this scenario, Figure 7, Bob approaches the vehicle Make C, M7, and the phone senses the vehicle and sends that information to the server. So Bob's device is identifying the selected vehicle, in addition to Bob who is identifying the selected vehicle. And, of course, the server identifies the selected vehicle, as well.

And if we look at the claim, I think it tells you that it's not the server that necessarily identifies the selected vehicle.

Ex. 1022, 80:5-18

Patent Owner's embodiment depicts receiving a “user profile” after identification of the selected vehicle

FIG. 7 illustrates an example of a user (Bob) that may wish to utilize a car **200**, in accordance with one embodiment of the present invention. For example, the car **200** may be a shared vehicle, such as those commonly shared in urban cities. Shared vehicles are those that belong to a company and where the company provides accounts to users to access the vehicles for specific trips, specific times, periods of time, etc. Users that share those vehicles typically park the vehicles at different locations throughout an urban city. Users wishing to find a vehicle to use can access an application or website having access to an Internet connected application to find the vehicle closest to the particular user.

Once the user has located a proximate vehicle, such as car **200**, the user may approach the vehicle so as to utilize the vehicle **200**. In one embodiment, when the user approaches the vehicle, and comes in close proximity to the vehicle as detected by the geo-location of the users mobile device, a pairing request can be detected. The pairing request may be triggered once the proximity zone of the car **200** and the proximity zone of the user substantially or partially overlap. The proximity zone's may overlap when the user comes in close proximity to the vehicle, such as within a few feet, within a mile, or the user has touched or bumped the vehicle.

The pairing request may be automatically sent by the users device to cloud services **120**. The pairing request can include sending the model of the vehicle **200**, that may have been obtained by the users mobile device from the vehicle **200** directly. In the illustrated example, the pairing request by the users mobile device can include identification of the vehicle that the user has come in close proximity to. A pairing module **170**, can then communicate with a mapping engine **118** that determines information associated with car **200**.

An automaker database **116** can include data regarding a plurality of vehicles, including standard user interfaces, configuration interfaces, and other information necessary to provide user Bob with a custom interface for vehicle **200**.

The mapping engine **118**, in this example includes a map or that communicates with the automakers database to identify the settings, applications, APIs, or modules that allow integration of Bob's user profile from the user profiles database **160** so that Bob's profile can be sent to car **200**. In the illustrated example, the mapping engine, the of the mapper, will obtain Bob's profile **160** for cloud services and obtain vehicle information for the user interfaces of the vehicle desired for use by the user.

'268 Patent, 16:57-17:11

'268 Patent, 16:34-66

Even if Patent Owner's embodiment supported its construction, a preferred embodiment cannot be read into the claims

- In *Altiris*:
 - The sole embodiment from the specification encompassed the patent owner's construction.

But,



"Looking next to the written description, it clearly only discusses a single 'preferred' embodiment in which the 'setting' step occurs after the 'testing' step and before the 'booting normally' step. **Nowhere, however, is there any statement that this order is important, any disclaimer of any other order of steps, or any prosecution history indicating a surrender of any other order of steps.**"

"[W]e construe the claims as allowing the "setting" step to occur **at any time.**"

Altiris, Inc. v. Symantec Corp., 318 F.3d 1363, 1371 (Fed. Cir. 2003) (emphasis added)

Xiao's Disclosure

[0095] FIG. 9 illustrates an exemplary wireless automobile key service page 900. In one embodiment, page 900 may be associated with automobile key service application 302 and displayed to an automobile operator using mobile device 110. In one embodiment, page 900 may be part of automobile security monitoring application 302 and displayed to an automobile operator using mobile device 110. The operator may log in to page 900 by inputting the operator's username, password, biometric data, and/or other authentication information to mobile device 110. Mobile device 110 may then transmit the authentication information, and optionally the mobile ID 304, to automobile service server 118 over cellular network 114. Server 118 may check the provided authentication information against the authentication information 612 corresponding to the mobile ID 610 and/or the operator ID 608 in the stored account information. If server 118 properly authenticates the operator, server 118 may retrieve the operator's profile information 614 and default automobile ID 617 for the operator. In addition, server 118 may retrieve the

Pet., 14, 44 (Xiao, [0095])

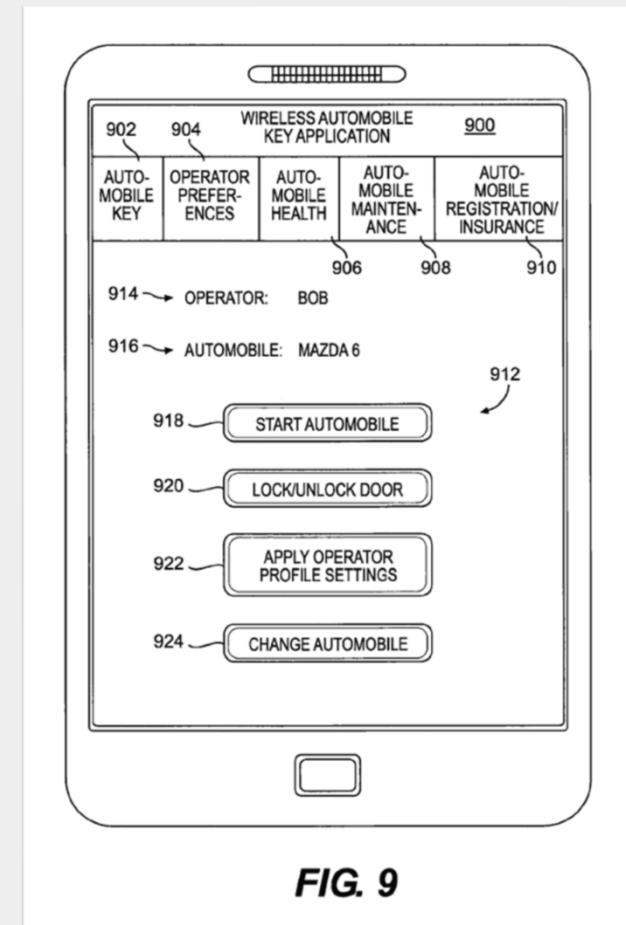
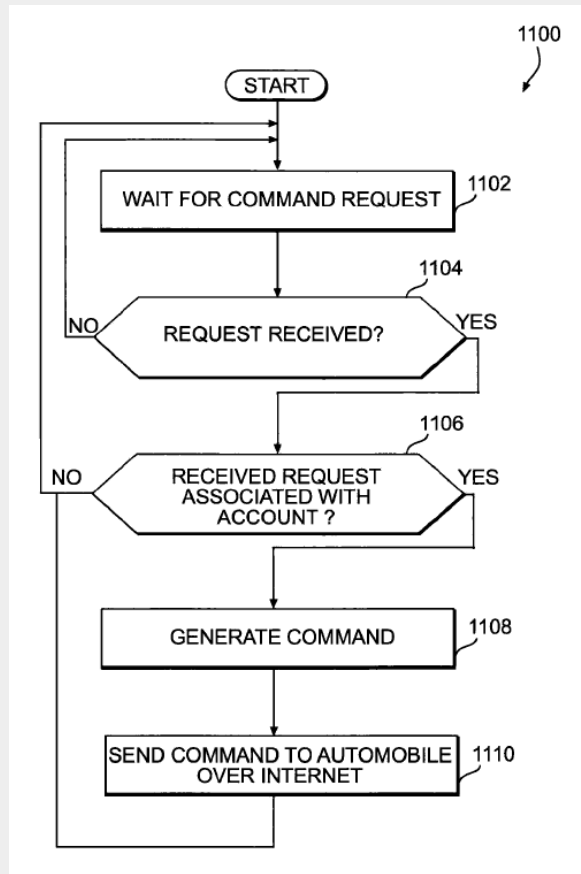


FIG. 9

Pet., 24 (Xiao, Fig. 9)

Xiao's Disclosure



Pet. 20-21 (Xiao, Fig. 11)

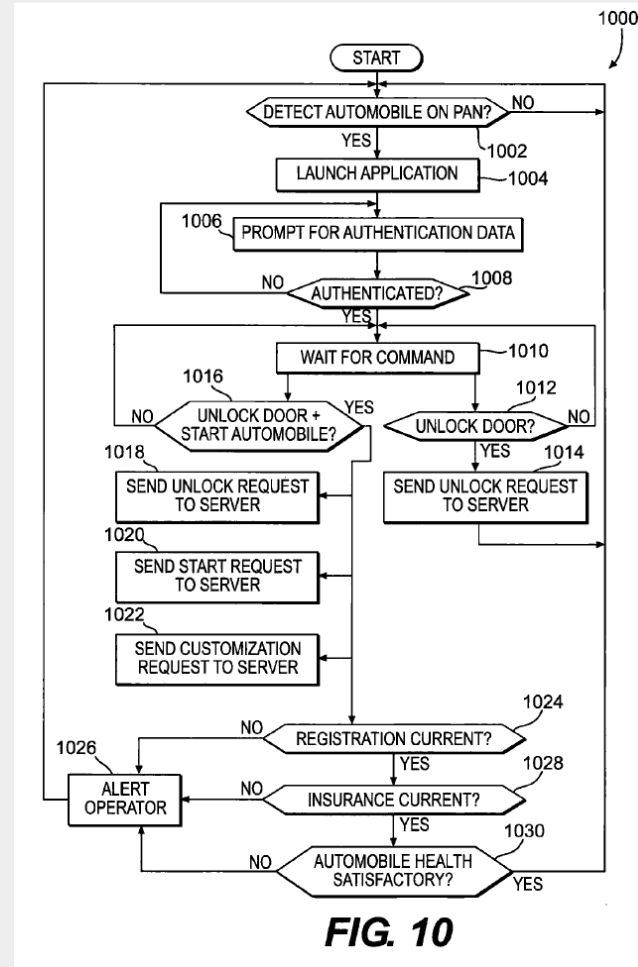


FIG. 10

Reply, 16 (Xiao, Fig. 10)

Xiao's Disclosure

[0088] Command information 606 may further include a command code 632 associated with each command that may be issued to the automobile 112. In one embodiment, command code 632 may be a specific code or instruction that may be broadcast on automobile network 420 and executed by a module 402-418 aboard the automobile 112 to cause the module 402-418 to perform the desired function. For example, command codes 632 may be CAN bus codes or other codes provided by the manufacturer of automobile 112 and/or the manufacturer of the automobile systems for controlling the systems to perform various functions. In one embodiment, server 118 may look up a particular command code 632 based on the automobile ID 628 and command ID 630 contained in a command request received from mobile device 110 and/or from a terminal device associated with local system 106

Pet., 23 (Xiao, [0088])

[0102] Automobile key menu 912 may also include an apply operator profile settings UI element 922. Apply operator profile settings UI element 922 may allow the operator to apply the settings of the operator's profile to the systems of the automobile 112, over the Internet 108. For example, in response to the operator providing input to UI element 922, mobile device 110 (or terminal device 122) may send a corresponding apply operator profile command request on cellular network 114 (or LAN 126). The operator profile command request may be received at cellular network gateway 115 (or LAN gateway 126), and transmitted on the Internet 108. Server 118 may receive the apply operator profile command request from the Internet 108. Using the operator ID 608 and/or the mobile ID 610 corresponding to mobile device 110, server 118 may retrieve from operator information 602 the corresponding profile information 614 for the operator. As discussed above, the operator profile information 614 may identify certain desired settings of the systems of automobile 112. For example, the operator profile information 614 may indicate the operator's desired climate system settings (e.g., 80° F. cabin temperature and high fan speed), desired audio system settings (e.g., 101.1 FM, volume 10, and certain station presets 1-5), desired operator comfort settings (e.g., a certain set position and set seat warmer setting), and desired operator awareness settings (e.g., a certain rearview mirror position and certain side mirror positions).

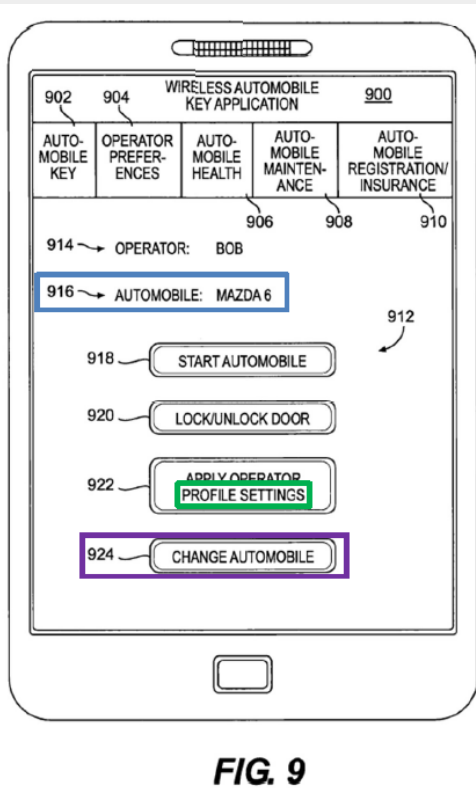
Pet., 14 (Xiao, [0102])

Disputed Issues

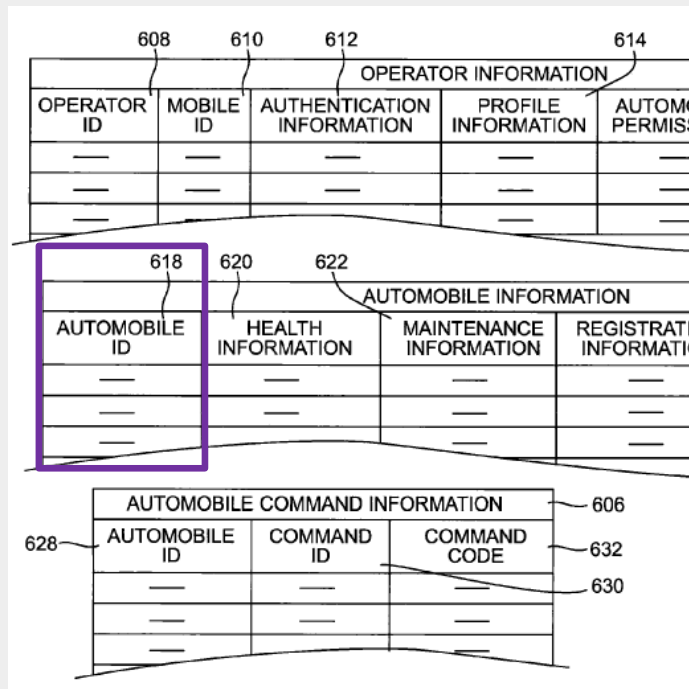
- Claim 10's Lack of Compatibility Check; Prior Art Disclosure of Same for Claims 10 and 20
- Claim 10's Lack of Required Order; Prior Art Disclosure of Same
- Xiao's "User Profile" (claim 10)
- Xiao's "Sub-user Accounts" (claims 17-19)
- Petition's Combination of Xiao and Patenaude (claim 12[c])
- Petition's Combination of Xiao and Patenaude (claim 20[b])

Xiao discloses the limitations in as much detail as claimed

10[b] identifying a selected vehicle for applying the user profile, the selected vehicle having a plurality of settable settings, the selected vehicle being one of a plurality of vehicles identified as available by the server;



Pet. 24 (citing Xiao, Fig. 9)



[0102] Automobile key menu 912 may also include an

the corresponding profile information 614 for the operator. As discussed above, the operator profile information 614 may identify certain desired settings of the systems of automobile 112. For example, the operator profile information 614 may indicate the operator's desired climate system settings (e.g., 80° F. cabin temperature and high fan speed), desired audio system settings (e.g., 101.1 FM, volume 10, and certain station presets 1-5), desired operator comfort settings (e.g., a certain set position and set seat warmer setting), and desired operator awareness settings (e.g., a certain rearview mirror position and certain side mirror positions).

Pet. 24 (citing Xiao, [0102])

Xiao discloses the limitations in as much detail as claimed

10[c] **determining**, by the server, **applicable settings for the selected vehicle**, the applicable settings being settings that are preferred to be set as **identified from the user profile** and are compatible with settings that are settable **in the selected vehicle**; and

[0103] Based on the desired automobile system settings indicated by the operator profile information 614, automobile service server 118 may retrieve appropriate command codes 632 for these systems from automobile command code information 606. For example, automobile service server 118 may look up appropriate command codes 632 based on the automobile ID 627 and on the command IDs 630 associated with the operator's desired system settings 614. Then, automobile service server 118 may generate one or more commands based on the retrieved command codes 632 to control the automobile systems to achieve the operator's desired settings.

Pet., 25 (citing Xiao, [0103])

[0126] If server 118 determines that the received command request is associated with an account, server 118 may generate a command for the automobile 112, step 1108. For example, server may generate a command to lock/unlock the door of the automobile 112, a command to power on/off the automobile 112, and/or a command to customize the settings one or more systems onboard the automobile 112 based on a profile associated with the operator, as described above.

Pet., 25-26 (citing Xiao, [0126])

[0111] Server 118 may then transmit to mobile device 110 (or terminal device 122) the automobile IDs 618 associated with the identified automobiles 112. Then, mobile device 110 (or terminal device 112) may display an automobile selection menu (not shown) allowing the operator to select a new automobile 112 from among the identified automobiles 112. Subsequently, the operator may be able to perform the various automobile key service with respect with the selected new automobile 112. For example, the operator may start the new automobile 112 using UI element 918, may lock/unlock the door of the new automobile 112 using UI element 920, and may apply the preferences indicated in the operator profile information 614 to the systems of the new automobile 112 using UI element 922. In addition, the operator may view

Reply, 12 (Xiao, [0111])

Xiao's operator profile information is broader than a single automobile

[0069] Operator profile information 614 may be associated with each operator on the wireless automobile key service account. Operator profile information 614 may contain information regarding the preferences of the operator for the disclosed wireless automobile key service. For example, operator profile information 614 may contain climate control system preferences for the operator for each automobile 112 on the account. As an example, the climate control preferences may include the operator's desired heating or cooling temperature settings, desired air conditioning settings, desired vent settings, desired fan speed settings, desired window or mirror defroster settings, and/or other climate preferences for the automobile(s) 112.

Pet., 13 (Xiao, [0069])

[0031] Automobile service application 302 may be an application configured to execute on mobile operating platform 300 to perform the disclosed wireless automobile key service. In one embodiment, mobile device 110 may download application 302 from automobile service system 104. For example, an operator of automobile 112 may register for the disclosed wireless automobile key service with automobile service system 104 and create an account for one or more mobile devices 110, automobile operators, and/or automobiles 112. After registering, application 302 may be downloaded to mobile device 110.

Pet., 41-42 (Xiao, [0031])

Xiao discloses “commands” that are “associated with the operator’s desired system settings” (i.e., are user-specific)

[0103] Based on the desired automobile system settings indicated by the operator profile information 614, automobile service server 118 may retrieve appropriate command codes 632 for these systems from automobile command code information 606. For example, automobile service server 118 may look up appropriate command codes 632 based on the automobile ID 627 and on the command IDs 630 associated with the operator’s desired system settings 614. Then, automobile service server 118 may generate one or more commands based on the retrieved command codes 632 to control the automobile systems to achieve the operator’s desired settings. Continuing with the example above, server 118 may generate a command to control the climate system to heat the automobile 112 to 80° F. and to set a high fan speed; a command to control the audio system to play 101.1 FM at volume 10, and to apply the operator’s desired station presets; a command to control the comfort system to move the driver’s seat to the desired position, and to set the seat warmer to high; and a

Reply, 12 (Xiao, [0103])

[0111] Server 118 may then transmit to mobile device 110 (or terminal device 122) the automobile IDs 618 associated with the identified automobiles 112. Then, mobile device 110 (or terminal device 112) may display an automobile selection menu (not shown) allowing the operator to select a new automobile 112 from among the identified automobiles 112. Subsequently, the operator may be able to perform the various automobile key service with respect with the selected new automobile 112. For example, the operator may start the new automobile 112 using UI element 918, may lock/unlock the door of the new automobile 112 using UI element 920, and may apply the preferences indicated in the operator profile information 614 to the systems of the new automobile 112 using UI element 922. In addition, the operator may view and/or change the operator profile information 614 for the new automobile 112 by selecting UI element 904. The operator may also view health information 620, maintenance information 622, registration information 624, and/or insurance information 626 associated with the new automobile 122 by respectively selecting UI elements 906, 908, and 910.

Reply, 12 (Xiao, [0111])

Disputed Issues

- Claim 10's Lack of Compatibility Check; Prior Art Disclosure of Same for Claims 10 and 20
- Claim 10's Lack of Required Order; Prior Art Disclosure of Same
- Xiao's "User Profile" (claim 10)
- Xiao's "Sub-user Accounts" (claims 17-19)
- Petition's Combination of Xiao and Patenaude (claim 12[c])
- Petition's Combination of Xiao and Patenaude (claim 20[b])

Claims 17-19

17. The method of claim 10, further comprising, associating one or more **sub-user accounts** to the user profile, the **sub-user accounts** having predefined privileges for the selected vehicle to enable or restrict settings or function of the selected vehicle.

18. The method of claim 10, wherein the selected vehicle is a private vehicle or a shared vehicle associated with a car sharing system,

if the vehicle is associated with a car sharing system, the settable settings of the selected vehicle can be enabled or disabled using an administrator account of the car sharing system, or

if the vehicle is a private vehicle, the settable settings of the selected vehicle can be enabled or disabled using an administrator account that can define one or more **sub-user accounts** with the same or varying privileges for use of the selected vehicle, the user profile being accessible via a computer having Internet access to the server.

19. The method of claim 18, wherein particular **sub-user accounts** enable access to specific information concerning the selected vehicle, the information including one or more of vehicle sensors, vehicle electronics, vehicle mechanics, engine control, vehicle diagnostics, or combinations thereof,

wherein said particular **sub-user accounts** are accessible over the Internet for viewing or control using a password.

Xiao discloses “sub-user accounts”

[0031] Automobile service application 302 may be an application configured to execute on mobile operating platform 300 to perform the disclosed wireless automobile key service. In one embodiment, mobile device 110 may download application 302 from automobile service system 104. For example, an operator of automobile 112 may register for the disclosed wireless automobile key service with automobile service system 104 and create an account for one or more mobile devices 110, automobile operators, and/or automobiles 112. After registering, application 302 may be downloaded to mobile device 110.

Pet., 42 (citing Xiao, [0031])

Xiao discloses “sub-user accounts”

DECLARATION OF KEVIN C. ALMEROOTH, PH.D. IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 9,171,268

[0076] Operator information 602 may further include automobile permissions 616 associated with each operator on the account. In one embodiment, automobile permissions 616 may identify the automobile(s) 112 the operator is permitted to operate in connection with the disclosed wireless automobile key service. For example, in a family account, the father and mother may have permission to operate every automobile 112 on the account. Whereas a child may only have permission to operate the child’s automobile 112 or the family automobile 112.

Pet., 40 (citing Xiao, [0076])

164. *Xiao* further explains “[o]perator information 602 may further include automobile permissions 616 associated with each operator on the account. In one embodiment, automobile permissions 616 may identify the automobile(s) 112 the operator is permitted to operate in connection with the disclosed wireless automobile key service. For example, in a family account, the father and mother may have permission to operate every automobile 112 on the account. Whereas a child may only have permission to operate the child’s automobile 112 or the family automobile 112.” *Id.* at ¶ [0076]. A POSA would understand from this disclosure in *Xiao* that a sub-user, such as a child, would have “predefined privileges for the selected vehicle to enable or restrict settings or function of the selected vehicle,” as recited in the claim. As an example, the father and mother have higher privileges, such that settings or function of a selected vehicle (or “every automobile 112 on the account”) are enabled; whereas the child has lower privileges, such that settings or function are enabled only on “the child’s automobile 112 or the family automobile 112” and restricted on other vehicles. *See id.*

Almeroth Dec. ¶164

Xiao discloses “same or varying privileges” for “sub-user accounts”

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IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF
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[0076] Operator information 602 may further include automobile permissions 616 associated with each operator on the account. In one embodiment, automobile permissions 616 may identify the automobile(s) 112 the operator is permitted to operate in connection with the disclosed wireless automobile key service. For example, in a family account, the father and mother may have permission to operate every automobile 112 on the account. Whereas a child may only have permission to operate the child’s automobile 112 or the family automobile 112.

Pet., 42 (citing Xiao, [0076])

171. Also, for example, like claim 17, *Xiao* discloses a family account where sub-users may have the same or varying privileges, and settings can be enabled or disabled. Specifically, “[o]perator information 602 may further include automobile permissions 616 associated with each operator on the account. In one embodiment, automobile permissions 616 may identify the automobile(s) 112 the operator is permitted to operate in connection with the disclosed wireless automobile key service. For example, in a family account, the father and mother may have permission to operate every automobile 112 on the account. Whereas a child may only have permission to operate the child’s automobile 112 or the family automobile 112.” *Id.* at ¶ [0076]. Thus, some sub-users (e.g., a father and mother) have the same privileges, and some sub-users (e.g., children) have varying privileges where settings may be disabled.

Almeroth Dec. ¶171

Xiao's family member access parallels that in the '268 Patent

'268 Patent

FIG. 2 shows two different types of users and an example of how the user is organized, in accordance with one embodiment. In this example, User 1 is an administrator of a vehicle login system over vehicles he or she owns. User 1 has the ability to add or remove logins, roles and vehicles to his login system. Since User 1 is an administrator, he or she can add more logins and or roles to the system to allow a family member to have access to the family vehicles for instance. In this case, a family member "User 2" is shown. The administrator has given this family member a login named User 2 and has granted two roles to User 2. User 1 may only want User 2 to have access to a certain vehicle and to certain roles only. User 1 may only want User 2 to have access to the vehicle for the purposes of traveling between school and home. In this case User 1 has created a role that is applied to User 2, which only allows the vehicle to travel within certain restrictions and geographical locations.

Reply, 18 (citing EX1001, 15:15-18)

Xiao (Ex. 1010)

[0076] Operator information 602 may further include automobile permissions 616 associated with each operator on the account. In one embodiment, automobile permissions 616 may identify the automobile(s) 112 the operator is permitted to operate in connection with the disclosed wireless automobile key service. For example, in a family account, the father and mother may have permission to operate every automobile 112 on the account. Whereas a child may only have permission to operate the child's automobile 112 or the family automobile 112.

Pet., 42 (citing Xiao, [0076])

Xiao discloses “same or varying privileges” for “sub-user accounts”

[0023] System 100 enables an operator of an automobile to use the operator’s mobile device, such as a cell phone, to lock/unlock the automobile, to power on/off the automobile, or to affect other automobile operations. System 100 may also communicate with the automobile, over a network, to apply automobile system settings based on preferences contained in an operator profile. In addition, system 100 may enable an operator of the automobile at a remote terminal, such as a desktop or laptop computer, to lock/unlock the automobile, to power on/off the automobile, or to perform other operations associated with the automobile over a network. System 100 may also enable the operator or owner to view health information associated with the vehicle, to view or change operator profile information for the automobile, or to perform other related functions. These and other functions of system 100 will be discussed in greater detail below.

Pet., 44 (citing Xiao, [0023])

[0095] FIG. 9 illustrates an exemplary wireless automobile key service page 900. In one embodiment, page 900 may be associated with automobile key service application 302 and displayed to an automobile operator using mobile device 110. In one embodiment, page 900 may be part of automobile security monitoring application 302 and displayed to an automobile operator using mobile device 110. The operator may log in to page 900 by inputting the operator’s username, password, biometric data, and/or other authentication information to mobile device 110. Mobile device 110 may then transmit the authentication information, and optionally the mobile ID 304, to automobile service server 118 over cellular network 114. Server 118 may check the provided authentication information against the authentication information 612 corresponding to the mobile ID 610 and/or the operator ID 608 in the stored account information. If server 118 properly authenticates the operator, server 118 may retrieve the operator’s profile information 614 and default automobile ID 617 for the operator. In addition, server 118 may retrieve the health information 620, maintenance information 622, registration information, and insurance information 626 for the automobile 112 using the default automobile ID 617. Server 118 may then transmit the retrieved information to mobile device 110 over the Internet 108.

Pet., 44 (citing Xiao, [0095])

Xiao discloses “same or varying privileges” for “sub-user accounts”

DECLARATION OF KEVIN C. ALMEROTH, PH.D.
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 9,171,268

183. *Xiao* discloses an embodiment that only allows the “operator or owner to view health information associated with the vehicle, to view or change operator profile information for the automobile, or to perform other related functions.” Ex. 1010 at ¶ [0023]. *Xiao* also discloses some sub-users (e.g., father and mother) having elevated privileges, and some sub-users (e.g., children) having fewer or lower privileges. *Id.* at ¶ [0076]. It is clear that in such embodiments, only some users (i.e., particular sub-user accounts) have access to view health information associated with the selected automobile.

Almeroth Dec. ¶183

Disputed Issues

- Claim 10's Lack of Compatibility Check; Prior Art Disclosure of Same for Claims 10 and 20
- Claim 10's Lack of Required Order; Prior Art Disclosure of Same
- Xiao's "User Profile" (claim 10)
- Xiao's "Sub-user Accounts" (claims 17-19)
- Petition's Combination of Xiao and Patenaude (claim 12[c])
- Petition's Combination of Xiao and Patenaude (claim 20[b])

Patent Owner does *not* dispute:

- Analogous Art
- Motivation to Combine
- Limitation 12[pre]
- Limitation 12[a]
- Limitation 12[b]

Claim 12 does not distinguish between “pulling” and “pushing”

Patent Owner: “Neither ‘retrieval’ disclosure of Patenaude is the recited ‘sending the learned settings to the user profile ...’” because “there is a significant difference between data being pushed (i.e., sending), versus data being pulled (i.e., retrieving).” (POR, 54-55)

Claim 12:

12[pre] The method of claim 10, further comprising,

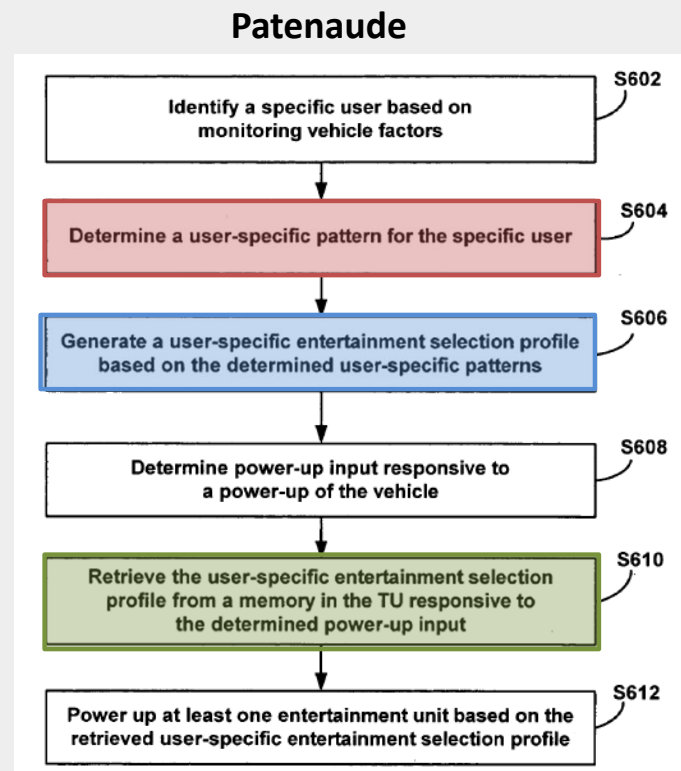
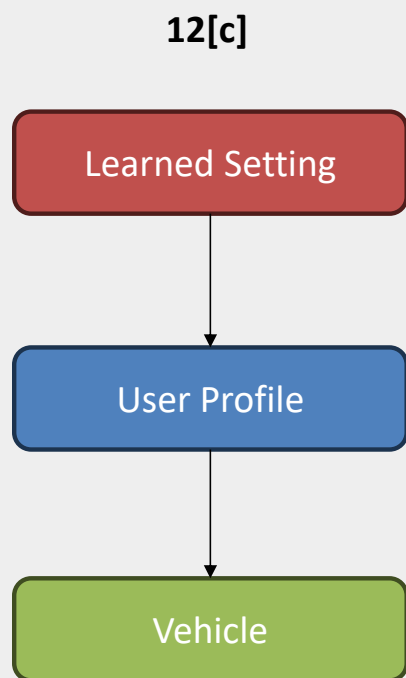
12[a] examining setting modifications over a period of time that defines a history use;

12[b] generating learned settings by analyzing the history of use; and

12[c] sending the learned settings to the user profile for use or transfer to the selected vehicle.

Patent Owner's argument is purely semantics, and illustrates no technical difference between the claims and the prior art

12[c] sending the **learned settings** to the **user profile** for use or transfer to the **selected vehicle**.



Pet., 53 (citing Patenaude, Fig. 6)

Patent Owner's emphasis on "retrieve" is irrelevant

REPLY DECLARATION OF KEVIN C. ALMEROOTH, PH.D. IN SUPPORT OF PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

14. In my opinion, there is no relevant difference as it relates to the transfer of data and whether the process is described from the perspective of the receiver in terms of retrieving (or requesting), as in the case of Patenaude, or from the perspective of the sender in terms of delivering. A person of ordinary skill in the art ("POSITA") would understand both relate to the sending and receiving of data. The retrieval of data requires that the data be sent in any realistic scenario. Dr. Malek's attempt to suggest that retrieval not only would not teach sending, but would also not suggest sending and would not even be obvious is wrong. For example, even assuming he is right that there is a difference between "push" versus "pull" in this context, pulling data still requires the data to be sent. Ultimately, Dr. Malek points to no scenario, realistic or otherwise, where data is retrieved (or pulled) but not sent. As such, Dr. Malek's alleged distinction is irrelevant to the requirement of the claims. And it does not change my opinion that Patenaude discloses "sending the learned settings to the user profile for use or transfer to the selected vehicle," as recited in claim 12, and as I laid out in my original declaration. Ex. 1009 at ¶¶211-215.

Almeroth Reply Dec., ¶14

Patent Owner's emphasis on “retrieve” is irrelevant

REPLY DECLARATION OF KEVIN C. ALMEROOTH, PH.D. IN SUPPORT OF PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

19. As one of skill in the art knows, there can be differences in implementation of a “retrieval” operation. For example, retrieval could be implemented using a “push” operation or a “pull” operation. However, such

Almeroth Reply Dec., ¶19

differences in implementation would be apparent to a person of skill in the art as routine details, and those details would not affect my analysis concerning whether Patenaude's “retrieval” meets the claimed “sending.” For example, differences between pushing and pulling mainly concern the initiation of the operation. More specifically, they concern *who* (or what component) initiates the operation and what the trigger may be. For example, a push operation involves data being sent to a component, which may be done without the component asking for it (e.g., a “push notification” delivered whenever there is an update). Whereas a pull operation may involve the component asking for data to be sent to it (e.g., “polling” for updates at the time of a request). In any event, however, the data is “sent” from a source to a recipient.

20. Patenaude makes no mention of “pushing” or “pulling” operations. And neither does the '268 patent. In my opinion, there is nothing particularly significant about Patenaude's choice of the word “retrieve.”

Almeroth Reply Dec., ¶¶ 19-20

Patent Owner's emphasis on “retrieve” is irrelevant

REPLY DECLARATION OF KEVIN C. ALMEROOTH, PH.D. IN SUPPORT OF PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

21. Additionally, because “retrieval” necessarily involves “sending” a thing from a source to a recipient, I see no practical difference between the “retrieval” disclosed by Patenaude and the “sending” recited in claim 12. Indeed, claim 12 does not specify the source of the sending in any way that would alter my analysis. What matters is that there is “sending” of “the learned settings to the user profile for use or transfer to the selected vehicle,” as recited by 12[c], which I

Almeroth Reply Dec., ¶ 21

Patent Owner's emphasis on “retrieve” is irrelevant

REPLY DECLARATION OF KEVIN C. ALMEROTH, PH.D. IN SUPPORT OF PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

18. Additionally, one would understand that because Patenaude teaches the profile being retrieved from memory, it follows that the profile must have been previously sent to the memory. Patenaude explains, for example, the determined patterns are output to the processor 122 of the telematics unit 120, and the processor 122 “stores the user entertainment selection profile in the in-vehicle memory 128.” Ex.1011 at ¶[0058]. Patenaude also explains that the profile can be stored at a remote location, too. *Id.* (“In another embodiment, the user entertainment selection profile is stored at the call center 170.”). Data would have to be sent to a component before it could be retrieved from that component.

Almeroth Reply Dec., ¶ 18

Disputed Issues

- Claim 10's Lack of Compatibility Check; Prior Art Disclosure of Same for Claims 10 and 20
- Claim 10's Lack of Required Order; Prior Art Disclosure of Same
- Xiao's "User Profile" (claim 10)
- Xiao's "Sub-user Accounts" (claims 17-19)
- Petition's Combination of Xiao and Patenaude (claim 12[c])
- Petition's Combination of Xiao and Patenaude (claim 20[b])

Patent Owner does *not* dispute:

- Motivation to Combine Patenaude
- Limitation 20[pre]
- Limitation 20[a] (other than compatibility check)
- Limitation 20[c]
- Limitation 20[d]
- Limitation 20[e]

Claim 20

20[pre] A method for managing a user profile of a vehicle via a cloud processing system being accessible over the Internet and wherein the vehicle is provided with wireless communication logic for connecting to the Internet for accessing the cloud processing system, comprising,

20[a] accessing the cloud processing system by the vehicle, the user profile having user settings for the vehicle, wherein certain of the user settings are determined to be compatible for use with the vehicle;

20[b] communicating to the cloud processing system by the vehicle, changes to user settings, the cloud processing system processing the changes and other changes to the user settings to learn behavior associated with the changes to the user settings; and

20[c] receiving by the vehicle, from time to time, automatic changes to the user settings of the vehicle, wherein a repeat pattern of the changes is qualified as learned behavior before the automatic changes are sent to the vehicle for programming on the vehicle, wherein the user profile is configured to be updated to account for the automatic changes made to the user settings of the vehicle,

20[d] wherein electronics of the vehicle enable connection of the vehicle to the Internet for enabling the accessing of the user profile, the communicating of changes and the receiving of the automatic changes, to and from, the cloud processing system, wherein the cloud processing system is accessible by vehicles having predefined access credentials, the method being executable by a processor;

20[e] wherein user settings for the user profile include one or more of radio settings, . . . or combinations of two or more thereof.

The Board invited the Parties to develop the record on certain arguments

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

In addition, we note Petitioner acknowledges, in connection with limitation [20b], that Xiao “does not explicitly disclose that changes to user settings are processed to learn behavior associated with the changes.”

Pet. 68. Petitioner argues that

Patenaude discloses a method of determining a user’s entertainment selection profile in a vehicle. *Id.*, ¶[0051]. As in Fig. 4, a telematics unit “determines patterns in the entertainment selections.” *Id.*, ¶[0055]. These are based on setting selections. *See id.*, ¶[0056].

Id. at 69. Petitioner contends that “it would have been obvious to combine Xiao and Hayashi with Patenaude to further improve the user experience by providing predictions of user selections, and one would have had a reasonable expectation of success in doing so.” *Id.* at 68. Patent Owner has not addressed these arguments in the preliminary record. We question, however, whether Petitioner has sufficiently shown that limitation [20b] is taught, suggested, or rendered obvious by the proposed combination of Xiao, Hayashi, and Patenaude.

I.D., 42

Patent Owner made other arguments

- “the Petition fails to identify any disclosure from *Xiao* to meet the recited limitation of “communicating ... ***by the vehicle***, changes to user settings,” as required by element 20[b].” (Response, 64)
- “Petitioner’s newfound reliance on *Patenaude* and *Hayashi* is of no avail, as the Petition relied solely on *Xiao* for the ‘communicating . . . **by the vehicle**’ limitation.” (Sur-reply, 28) (emphasis added)

Ground 5 is based on obviousness

20[b]: “communicating to the **cloud processing system** by the vehicle, changes to **user settings**, the **cloud processing system** processing the changes and other changes to the **user settings** to learn behavior associated with the changes to the **user settings**; and”

Xiao discloses communicating to the **cloud processing system** (e.g., **wireless automobile key system 100**) by the vehicle (e.g., automobile 112) changes to **user settings** (e.g., **profile information 614**). *Id.*, ¶¶ 255-261. *Xiao* states that “[o]perator preferences menu UI element 904 may allow the operator to view and/or change the operator’s **profile information 614**.” Ex. 1010, ¶¶ [0105]-[0106].

Although *Xiao* discusses providing recommendations to the user automatically, e.g., for keeping up-to-date with vehicle maintenance (*id.*, ¶ [0082]), *Xiao* does not explicitly disclose that changes to **user settings** are processed to learn behavior associated with the changes.

However, it would have been obvious to combine *Xiao* and *Hayashi* with *Patenaude* to further improve the user experience by providing predictions of user selections, and one would have had a reasonable expectation of success in doing so. *Supra*, VII.B, VII.C.2.

Pet., 68

Xiao discloses “a vehicle ‘communicating’ changes to user settings”

[0079] In some embodiments, the operator may set operator profile information **614** from automobile **112**. For example, the operator may set the automobile climate, audio system settings, seat positioning, mirror and/or camera positioning, etc. Automobile **112** may communicate the settings over cellular network **114** to server **118**, which may update the stored operator profile information **614** for the operator.

Pet., 65 (citing Xiao, [0079])

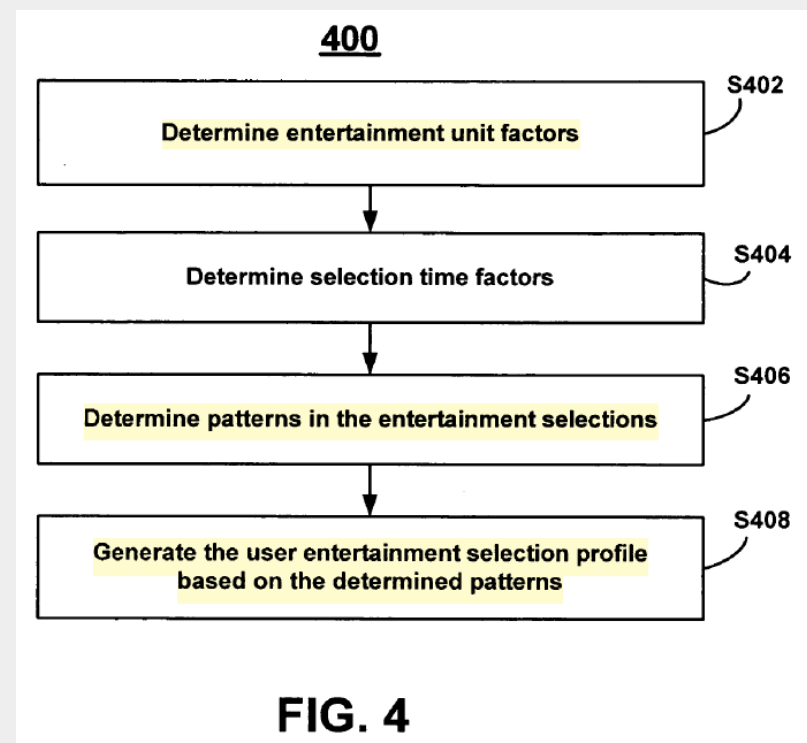
Petitioner's combination discloses “that changes to user settings are processed to learn behavior associated with the changes.”

[0052] During stage S402, the telematics unit 120 determines entertainment unit factors. The entertainment unit factors include one or more of the following: a satellite radio unit code, an AM radio unit code, an FM radio unit code, a received satellite signal frequency, a received AM signal frequency, a received FM signal frequency, a CD player unit code, a CD identifier code, a CD track number, a DVD unit code, a DVD identifier code, a DVD track number, a game unit code, a tape player unit code, a tape identifier code, a television unit code, and a received television signal frequency. A game unit code is comprised of an identifier that distinguishes a particular game unit.

Pet., 69 (citing Patenaude, [0052])

[0069] After a minimum number of entertainment unit factors and selection time factors are stored in the in-vehicle memory 128 for the specific user, the processor 122 applies an algorithm on the stored entertainment unit factors and selection time factors, as described above with respect to stages S402 and S404 in method 400 of FIG. 4, for the specific user. The algorithm is operable to search for one or more patterns in the time frame in which an entertainment unit is selected by the specific user.

Pet., 69 (citing Patenaude, [0069])



Pet., 69 (citing Patenaude, Fig. 4)

It would have been obvious to combine Xiao, Hayashi, and Patenaude

201. In attempting to further improve on *Xiao*, it would have been natural to look toward one of the known techniques in the prior art. *Patenaude*, for example, demonstrates one such way of extending the usability and convenience of a system that automatically sets automobile system settings, such as audio and other multimedia settings. See Ex. 1011 at ¶¶ [0001]-[0005].

205. For example, *Patenaude* recognized and identified a problem with the then-current (as of 2004) state of the art that it was unable to “determine and predict a user’s entertainment selections, such as a radio station on an FM radio or a compact disc track of a CD in a CD player,” and described solutions to “determine[e] at least one user entertainment selection profile based on the monitoring and activating entertainment units based on the profile.” *Id.* at ¶¶ [0001]-[0006]. It would have been obvious to apply this reasoning and improve the system of *Xiao*.

DECLARATION OF KEVIN C. ALMEROTH, PH.D. IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 9,171,268

274. A POSA would have had a reasonable expectation of success in combining the teachings of *Xiao* with both *Patenaude* and *Hayashi*, and these combinations would have worked together. Furthermore, using the method of *Hayashi* would not have impacted the method of *Patenaude* or *Xiao*, and vice versa. For example, each of the references concern complementary or compatible aspects of applying vehicle settings. Accordingly, in my opinion, *Xiao*, *Patenaude*, and *Hayashi* render obvious claim 20.

