

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TOYOTA MOTOR CORP.,
Petitioner,

v.

EMERGING AUTOMOTIVE LLC,
Patent Owner.

Case IPR2024-00786
U.S. Patent No. 9,171,268

**EMERGING AUTOMOTIVE LLC'S
PATENT OWNER RESPONSE**

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EX2001	Declaration of Professor Sam Malek, Ph.D. under 37 C.F.R. § 1.68 in support of Patent Owner's Preliminary Response
EX2002	<i>Curriculum Vitae</i> of Dr. Malek
EX2003	[Reserved]
EX2004	Cover pleading to Defendants' Preliminary Invalidity Contentions, <i>Emerging Automotive LLC v. Kia Corporation, et. al., and Toyota Motor Corp. et al.</i> , No. 2:23-cv-0437-JRG (lead case), No. 2:23-cv-0434-JRG (member case), served March 28, 2024
EX2005	Exhibit D-1 to Defendants' Preliminary Invalidity Contentions, <i>Emerging Automotive LLC v. Kia Corporation, et. al., and Toyota Motor Corp. et al.</i> , No. 2:23-cv-0437-JRG (lead case), No. 2:23-cv-0434-JRG (member case), served March 28, 2024
EX2006	Judicial Caseload Profile (March 31, 2024): Table C-5, <i>U.S. District Courts—Civil Federal Judicial Caseload Statistics</i> ; Table T-3, <i>U.S. District Courts—Median Time from Filings to Trial for Civil Cases in which Trials were Completed</i>
EX2007	Civil Docket Report for <i>Emerging Automotive LLC v. Kia Corporation, et. al., and Toyota Motor Corp. et al.</i> , No. 2:23-cv-0437-JRG (lead case)
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EX2010	Toyota's U.S. Patent No. 10,449,918, titled, "User Profile Synchronization for a Vehicle."
EX2011	Declaration of Professor Sam Malek, Ph.D. under 37 C.F.R. § 1.68 in support of Patent Owner's Response
EX2012	Email Correspondence from counsel for Petitioner, to Counsel for Patent Owner, dated August 7, 2024, explaining "good cause" for additional briefing

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EX2013	Judge Gilstrap Trial Schedule for July 21, 2025
EX2014	Civil Docket Report for <i>Stingray IP v. Vivint, Inc.</i> , No. 2:23-cv-00503-JRG-RSP
EX2015	Civil Docket Report for <i>Emerging Automotive LLC v. Kia Corporation, et. al., and Toyota Motor Corp. et al.</i> , No. 2:23-cv-0437-JRG (lead case) (updated September 6, 2024)
EX2016	Docket Navigator Median Time-to-Trial Statistics for Judge Rodney Gilstrap (excluding transfers), August 26, 2019 through August 26, 2024
EX2017	Defendants' Responsive Claim Construction Brief, <i>Emerging Automotive LLC v. Kia Corporation, et. al., and Toyota Motor Corp. et al.</i> , No. 2:23-cv-0437-JRG (lead case), No. 2:23-cv-0434-JRG (member case)

I. Introduction

Xiao does not anticipate any claim of the '268 Patent. And because no other ground or basis fills the evidentiary void of *Xiao*, all claims must be upheld. The Petition fails, for all challenged claims, at least because: (1) neither *Xiao*, nor the proposed *Xiao/Hayashi* combination, discloses or suggests the compatibility check required of independent claims 10 and 20; (2) *Xiao* fails to disclose “the user profile” required by elements 10[a], 10[b], and 10[c]; (3) *Xiao* cannot disclose elements 10[a] and 10[b] as arranged in claim 10, since the aspects Petitioner relies on as to element 10[a] occur *after* those relied on for element 10[b]; and (4) *Xiao* fails to disclose or suggest “communicating ... by the vehicle, changes to user settings,” as required by element 20[b].

At the Institution stage, the Board was not persuaded by Patent Owner’s argument that *Xiao* fails to perform a compatibility check, as neither party had proposed such a claim construction for claim 10 / claim 20. Institution Decision, Paper 11 at 28. However, *at this stage in the proceeding*, Petitioner “**Toyota agrees that the server/cloud based system performs the compatibility check**”¹ and both parties have proposed this claim requirement for the challenged independent claims:

¹ Emphasis herein added unless otherwise noted.

Plaintiff's Proposed Construction	Toyota's Proposed Construction
The parties agree these limitations require a “compatibility check” where the server / cloud based system determines whether settings are compatible with the vehicle. Otherwise, no construction necessary	the server / cloud based system determines applicable settings by performing a compatibility check to determine which settings that are preferred to be set as identified from the user profile are able to be set in the selected vehicle

EX2017 at 28.

With this agreed requirement applied to claim elements 10[c] and 20[a]— “determining, by the server, applicable settings ... that are ... compatible with settings that are settable on the selected vehicle” / “wherein certain of the user settings are determined to be compatible for use with the vehicle,” the Board should find all challenged claims valid because *Xiao* fails to disclose them. Moreover, Petitioner’s proposed combination with *Hayashi*, even if proper, does not cure these deficiencies of *Xiao*.

While this failure of *Xiao* and various secondary references is sufficient to uphold all challenged claims, Petitioner’s various grounds and theories fail for additional reasons. In short, *Xiao*, at best, allows a user to use a device to select settings that are specific to one and only one vehicle, allowing settings to be set in a vehicle if the user has configured settings for that particular vehicle. For those users that want any settings applied to a second vehicle (or more vehicles), *Xiao* requires the user to add a second vehicle to the account and *again* enter all of his/her specific settings for that specific second vehicle. But the inventors of the ’268 Patent

disclosed and claimed “a shift from [this] current state of the art in which settings are vehicle specific.” EX1001, 12:31-33. Instead, the ’268 Patent enables functionality “allow[ing] each user to apply his or her settings to any vehicle,” where “vehicle settings are user specific.” *Id.*, 12:31-39. This stark difference from the disclosures of *Xiao* not only highlights the “compatibility check” failures, but numerous other failures as well.

As another example, *Xiao* further fails to disclose ***the required ordered steps*** of “receiving ... information for the user profile” (claim 10[a]), and “identifying a selected vehicle for applying the user profile” (claim 10[b]), as arranged in independent claim 10. The relied-upon art “must be arranged or combined in the same way as in the claim” (Decision, Paper 11 at 27 (*citing Adasa Inc. v. Avery Dennison Corp.*, 55 4th 900, 910 (Fed. Cir. 2022))), but here *Xiao* is rearranged to the point of absurdity. *Xiao* makes clear that the server receiving a “command request,” relied on for element 10[a], occurs ***after*** the server has retrieved and displayed the “name of the automobile 112 currently selected,” which is relied on for element 10[b]. *Askeladden LLC v. Hardison Holding Company LLC*, IPR2021-00278, Paper 7 at 22 (P.T.A.B. Apr. 15, 2021) (Petition failed to show anticipation because the reference made clear that “the aspects relied on as to element 1G occur *after* those relied on for element 1H”) (emphasis in original). It would not have been

obvious to modify *Xiao*'s incorrect order, and Petitioners offer not argument to the contrary.

As another example, *Xiao fails to disclose “the user profile” limitation* of independent claim elements 10[b] and 10[c] because, as recited in element 10[a], the claimed user profile defines “one or more settings that are preferred to be set *in vehicles*, if the vehicles support the settings.” EX1001, 33:1-5. *Xiao*'s system preferences are each configured to be vehicle-specific, requiring, at registration, every setting to be preset individually for each vehicle, such that no setting can be preferred to be set *in vehicles*. Each setting of *Xiao* must be preset vehicle by vehicle and each of its server operations is likewise vehicle-specific, thereby preventing the '268 Patent's chief purpose: the transfer of user-specific settings to any vehicle.

The Petition's challenge to independent claim 20 fails for yet an additional reason: *Xiao* fails to disclose, suggest, or otherwise render obvious the elements requiring “communicating to the cloud processing system *by the vehicle*, changes to user settings.” *See, e.g.*, EX1001, 34:52-56 (claim 20[b]). Petitioner and Dr. Almeroth misidentify *Xiao*'s “terminal device” as a vehicle, but *Xiao* itself shows they are both wrong. All grounds fail.

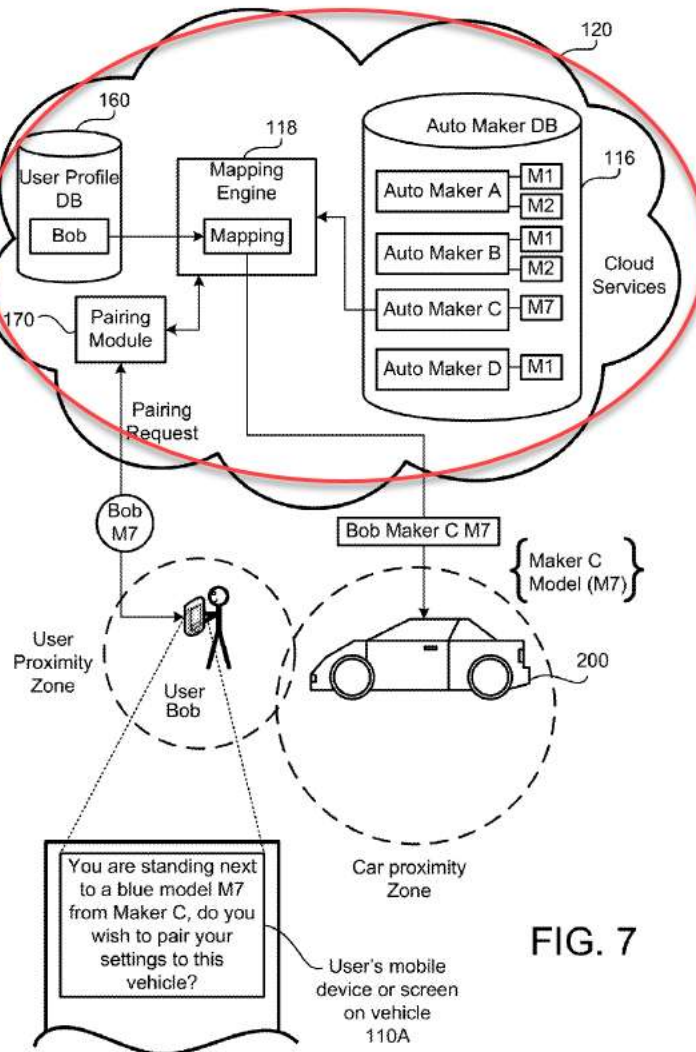
II. Overview and claim constructions of the '268 Patent.

A. The '268 Patent enables the transferability of user-specific settings to *vehicles* based on a server performing a compatibility check between the user profile and the vehicle's supportable settings.

The '268 Patent discloses inventive systems and methods enabling 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 user experience in vehicles. EX1001, 1:56-5:12. The personalized user experience is defined by preferences the user sets in a user profile, while achieving the scalability of transferring and applying those personalized settings amongst various vehicles—supporting a wide range of user preferences and vehicle types by providing for a compatibility check between settings in the user profile and available settings on the vehicle before transferring the profile settings for programming on the vehicle. *Id.*; *see also id.*, 1:66-2:5, 3:18-21, 12:15-45; 10:42-55, 16:34-17:14, 31:65-32:3, 33:1-26, 34:43-35:21.

The server performing a compatibility check can be, for example, the server “performing a mapping between [settings from] the user profile and [settings obtained from] an automobile database.” EX1001, 3:19-21; *see also id.*, Fig. 7, claim 14. The server may perform a mapping utilizing a “mapping engine 118” “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." *Id.*, 17:3-7.



EX1001, Fig. 7 (annotated); 16:66-17:13. After performing the compatibility check, "Bob's profile [is transferred] to vehicle 200." *Id.*, 17:12-14. In this way, the profile settings defined by Bob can be transferred to "a friend[]s vehicle, a rented vehicle, a shared vehicle." *Id.*, 16:14-24. Not all the user's settings may be compatible in each vehicle, therefore a compatibility check accounts for non-compatible settings.

By abstracting the user profile settings from the vehicle itself and requiring a compatibility check between those user profile settings and the settable settings on the selected vehicle, the claimed inventions allow user profile settings to be transferred between multiple vehicles. *See, e.g., id.*, 12:36-40 (“the embodiments defined herein allow each user to apply his or her settings to any vehicle”). The innovations of the ’268 Patent allow a user to define one or more settings that are preferred to be set in vehicles and have those user specific settings automatically transferred to any vehicle. *Id.*, 12:31-39.

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.

B. Claim construction: “compatibility check” and claim 10’s ordered steps.

The Board gives terms their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history.

Askeladden, Paper 7 at 9 (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313-14 (Fed. Cir. 2005)). For trial in this matter, the Board need only construe claim language as to claims 10 and 20: (1) the steps of claim 10 must be performed in a certain order and (2) the operation of the server / cloud processing system recited in elements 10[c] and 20[a] must “perform a compatibility check.”

1. The challenged independent claims require a “compatibility check.”

In its Institution Decision, the Board invited discussion on the meaning and application of element 10[c]. Decision, Paper 11 at 28; *see also* EX1001, 33:11-15. Patent Owner proposes the parties’ agreed-upon construction of element 10[c] and element 20[a] from the district court proceeding—that the server / cloud processing system described in elements 10[c] / 20[a], respectively, “perform a compatibility check.” EX2017 at 28. This “compatibility check” was not only agreed to by the Parties in the district court litigation, it is mandated in view of the claims, the specification, the prosecution, where the requirement was used to overcome a prior art rejection.

a. The Parties’ agreed construction in the district court proceeding.

Referring to claim elements 10[c] and 20[a], “Toyota agrees that the server / cloud based system performs the compatibility check.” EX2017 at 28; *see also id.*:

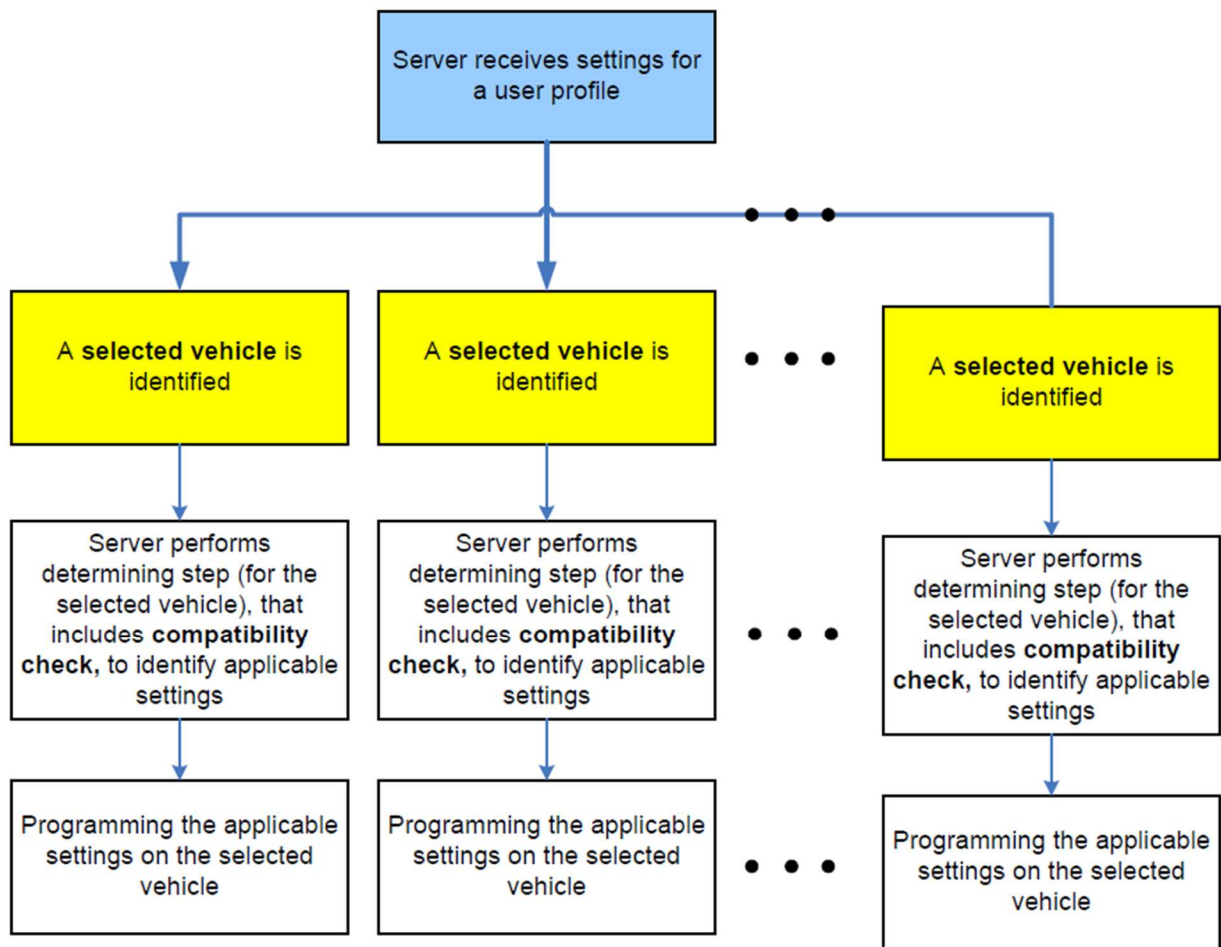
Plaintiff's Proposed Construction	Toyota's Proposed Construction
The parties agree these limitations require a “compatibility check” where the server / cloud based system determines whether settings are compatible with the vehicle. Otherwise, no construction necessary	the server / cloud based system determines applicable settings by performing a compatibility check to determine which settings that are preferred to be set as identified from the user profile are able to be set in the selected vehicle

While the Petition had relied on a contrary construction (*see* Pet., 25, EX1009, ¶ 119), Toyota has since agreed that the “compatibility check” is required. This requirement should ultimately be adopted in this proceeding as well, since the intrinsic record supports that requirement, as detailed further below. Moreover, Petitioner cannot be allowed to benefit by taking inconsistent positions in the different fora. *See, e.g., Facebook, Inc. v. Sound View Innovations, LLC*, IPR2017-00998, Paper 13 at 16-18 (P.T.A.B. Sept. 5, 2017) (“Perhaps even more troubling, Petitioner chose not to inform us in its Petitions that it simultaneously was arguing a different treatment of the terms of [the challenged claim] before the district court. ... At the very least, Petitioner’s failure to inform us of its differing claim construction arguments before the district court raises the specter of the lack of candor.”).

b. The specification supports the proposed construction.

There is good reason Petitioner agreed to the “compatibility check” requirement in the underlying litigation. Starting with the claim language, element claim 10[a] requires “the user profile defining one or more settings that are

preferred to be set in *vehicles*” (plural). Claim 10[b] requires “identifying a selected *vehicle*” (singular). 10[c] requires that the server determine “applicable settings,” which 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*.” *Id.* To reach the determination of what settings are “applicable settings,” therefore, the server determines that [(1)] “settings that are preferred to be set as identified from the user profile and *are compatible with* [(2)] settings that are settable in the selected vehicle.” EX1001, 33:11-15. Element 10[c] checks the compatibility of the settable settings in the selected vehicle with the settings from *the user profile*, “the user profile defining one or more settings that are preferred to be set *in vehicles* if the vehicles support the settings.” *Id.*, 33:1-5 (10[a]), 11-15 (10[c]). By “defining” the user profile as “one or more settings that are preferred to be set *in vehicles* ...,” the claimed invention, via the recited steps, enables transfer of the user profile settings to any vehicle that supports compatible settings. As shown below, as the user selects different vehicles, the user profile settings are transferred to the selected vehicle.



See EX1001, 33:1-26.

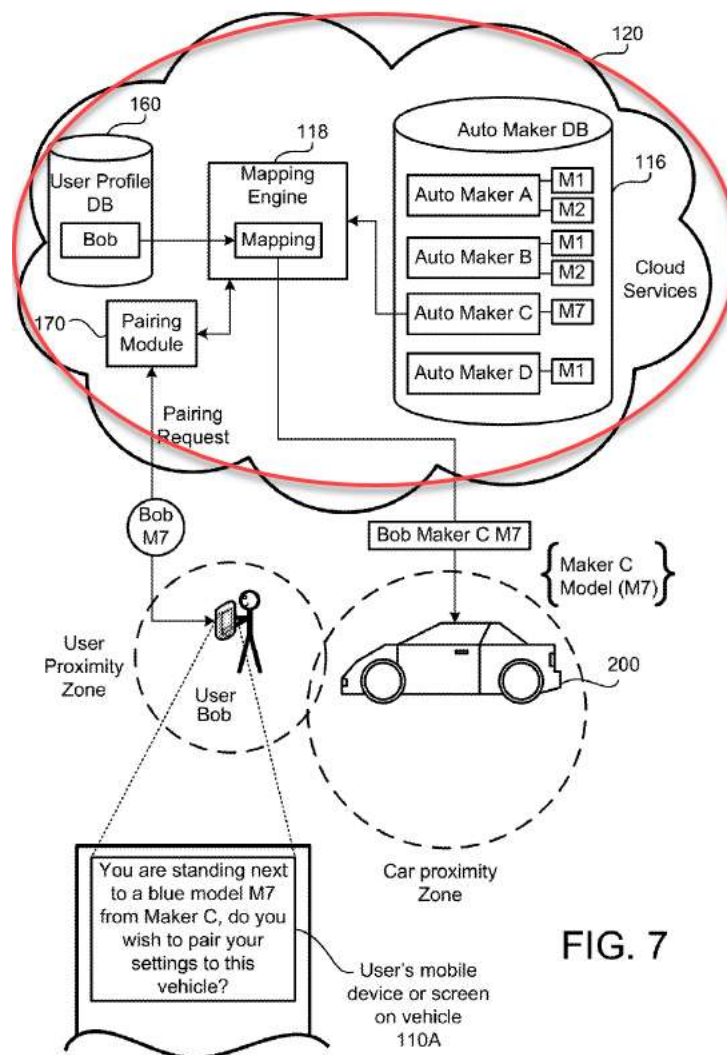
Claim 14 further supports the required compatibility check of element 10[c].

Claim 14 recites in part:

The method of claim 10, wherein the determining of the applicable settings for the selected vehicle includes performing a mapping between settings associated with the user profile and settings obtained from an automobile database . . .

EX1001, 33:61-64. For claim 14, the functionality required by the server in “determining ... applicable settings,” must be at least capable of “performing a mapping between settings associated with the user profile and settings obtained from an automobile database.” *Id.*

This example of a compatibility check is supported by the specification. As described in Section II.A. above, this “mapping” may be performed using a “mapping engine 118” “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... The mapping engine 118 will the[n] transfer Bob’s profile to vehicle 200.” EX1001, 17:3-17; *see also id.*, Fig. 7 (annot.):



Each of the challenged independent claims recites the server performing a compatibility check between settings from the user profile and settings available on the vehicle. *Id.*, 33:11-15 (claim 10[c]), 34:48-51 (claim 20[a]).

c. The prosecution history supports the construction.

The prosecution history confirms the claims require the “compatibility check,” as the Applicants relied on the “compatibility check” to overcome a prior art rejection. During prosecution, the pending claims 1-20 were initially rejected as

anticipated by the *Hendrix* reference (U.S. Publication No. 2012/0330494). The Applicants then made clarifying amendments to the independent claims to add language requiring a “check for compatibility of settings.” EX1002, 128, 192-201, 203. An Examiner Interview was conducted, where the Examiner and Applicants discussed an addition of “clarifying language that defines ... the transfer of user profiles to a vehicle, such that settings that are compatible with a vehicle can be transferred for programming on the vehicle.” *Id.*, 202. The Examiner and Applicants then reached an “[a]greement [] that the cited art to *Hendrix* does not teach these features, considered as a whole with the claims as amended.” *Id.*

Applicants then made those “agreed-upon” clarifying amendments to independent claims 1, 10, and 20. *Id.*, 192-201. For example, Applicants amended claim 10 to specifically include the terms “by the server” and “are compatible with settings that” in element 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...

Id., 196.

Applicants argued that amendments to each of the independent claims 1, 10 and 20 clarified “the way in which the user profile is used to enable transfer of certain vehicle settings to the vehicle,” including a “check for compatibility of settings.” *Id.*,

203. For example, Applicants made clarifications to independent claims 1 and 10, “such as the determination of vehicle settings that are determined compatible” (claim 10[c] amendments). Applicants further clarified the vehicle settings that “are identified in the user preferences of the user profile” (claim 10[b] amendments). *Id.*, 196, 203 (“claim 10 was also amended to clarify the determining, by the server, of applicable settings for the selected vehicle...”). As support for these amendments, Applicants cited to paragraphs “007, 0075, as examples of the check for compatibility of settings, for when user profiles are to be transferred to vehicles.” *Id.*, 203. Likewise, independent “[c]laim 20[a] was also amended to recite that certain of the user settings are determined to be compatible for use with the vehicle.” *Id.*; *see also id.*, 200. Applicants also made amendments to claim 20 “for clarity,” including amendments to the preamble and elements 20[b]-20[c] and 20[e]. *Id.*, 203; *see also id.*, 200.

Applicants then relied upon the compatibility check functionality to overcome the rejection, arguing that “*Hendrix* does not teach to perform any compatibility between settings in the user profile against settings available on the specific vehicle” and therefore, “does not teach the transfer of user profiles to vehicles.” *Id.*, 203. With these amendments made to independent claims 1, 10 and 20, including the server’s check for compatibility of settings in the allowed claims, all pending claims were allowed. *Id.* The Examiner recognized that neither *Hendrix* nor “any art of record”

discloses or suggests “...transferring the user profile, and configured the vehicle to automatically set on the vehicle one or more of the available *vehicle settings that are determined compatible* with settings identified in one or more of the user preferences of the user profile[.]” *Id.*

Accordingly, each of the independent claims recites the server performing a compatibility check between settings in the user profile and settings available on the specific vehicle. *Id.*, *see also id.*, 203 (“See ¶¶ 007, 0075, as examples of the check for compatibility of settings...”); *id.*, 190-201 (amendments to claims 1-5, 7-15, 18, 20).

2. The plain language of claim 10 shows that element 10[a] is a condition precedent to at least elements 10[b] and 10[c].

In addition to construing claims 10 and 20 to require the “compatibility check,” the Board should further construe method claim 10 such that step 10[a] occurs before steps 10[b] and 10[c]. A POSITA would understand that the logic and grammar of claim 10 make the requirement of an order of steps clear. EX2011, ¶¶ 56-60. Where “the sequential nature of the claim steps is apparent from the plain meaning of the claim language and nothing in the written description suggests otherwise,” placing a temporal limitation on the steps of a method is appropriate. *See, e.g., Tuna Processors, Inc. v. Hawaii Int’l. Seafood, Inc.*, 327 Fed. Appx. 204, 209 (Fed. Cir. 2009) (“smoking the tuna...by exposure to the smoke cooled to

between 0° and 5° C” requires cooling the smoke before the smoke contacts the tuna).

Claim 10 likewise requires a temporal limitation. The first step, element 10[a], requires “receiving, at a server, information for *a user profile of a user, the user profile defining ...*” EX1001, 33:1-5 (step 10[a]). For the subsequent step, 10[b], a selected vehicle must be identified “for applying *the* user profile . . .” (i.e., “*the user profile*” recited and defined in the preceding step (10[a])). *Id.*, 33:6-10. Thus, is it only *after* the server receives the required information for the user profile which defines “one or more settings that are preferred to be set *in vehicles if the vehicles support the settings*,” that the method identifies a selected vehicle that is “available” and has “a plurality of settable settings” “for applying *the* user profile” introduced in the preceding step. *Id.*, 33:1-10.

The third step, element 10[c], requires “determining, by the server, applicable settings,” ensuring the settings “from *the* user profile” of step 10[a] “are compatible with settings that are settable on *the* selected vehicle” identified in step 10[b]. *Id.*, 33:11-15 (step 10[c]). It is at this point, *after* the selected vehicle is identified *for applying the user profile* (10[b]), that the server can “determin[e]” “applicable settings for *the* selected vehicle” (10[c]). *Id.*, 33:6-15. To determine those “applicable settings,” element 10[c] ensures that *the* user profile settings from step 10[a]—“settings that are preferred to be set in vehicles,” are “compatible with” the

settings that are settable in the selected vehicle. EX1001, 33:1-5 (10[a]); *see id.*, 33:11-15 (10[c], “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”).

Thus, a POSITA would understand, “[a]s a matter of logic and grammar,” that element 10[a] is a condition precedent to elements 10[b] and 10[c]. *See, e.g., Askeladden*, Paper 7 at 11 (construing order of steps as limiting because “[a]s a matter of logic and grammar, authorizing payment ‘when both the first and second thresholds are exceeded’ can only occur *after* determining that the thresholds were already exceeded”); EX2011, ¶¶ 56-60. The plain language of the claim 10 elements shows that “*the user profile*” defined in element 10[a] is the antecedent basis for “*the user profile*” recited in elements 10[b] and 10[c]. EX1001, 33:1-26. Moreover, as shown above, step 10[b] does not allow the operation of “identifying a selected vehicle *for applying the user profile*” until after the user profile information is received by the server in the preceding step, 10[a]. *Id.* Similarly, element 10[c]—determining that the “settings that are preferred to be set as identified from *the user profile*” “are compatible with settings that are *settable in the selected vehicle*”—cannot occur until *after* the “settings that are preferred to be set as identified from the user profile” are received in step 10[a] and *after* identifying the selected vehicle with settable settings, which occurs in step 10[b]. *Id.*

The language of the claim as a whole confirms that step 10[a] is a condition precedent to at least elements 10[b] and 10[c].

III. Overview of *Xiao*: *Xiao*'s operator profile settings are vehicle-specific, requiring, at registration, every setting to be preset individually for each vehicle, such that no setting can be preferred to be set *in vehicles*.

A. Upon creating an account, *Xiao*'s operator can only configure settings individually “for each automobile 112 on the account.”

In contrast to the flexibility and user-specificity offered by the innovations of the '268 Patent, *Xiao* discloses a wireless automobile key service that is static and vehicle-specific. EX1010. Each of *Xiao*'s settings must be configured to a specific vehicle and applied to that vehicle, and because these are configured for each automobile 112 on the account, there is no need for the claimed “compatibility check” or other claimed features of the '268 patent. EX2011, ¶¶ 63-66. Instead, *Xiao* discloses a system in which an operator creates an account and each of the operator's system preferences must be separately preset and stored “for each automobile 112 on the account.” EX1010, ¶¶ 69-72. Using these preset “system preferences for each automobile 112 on the account,” *Xiao*'s system can only store, retrieve and relay a command code corresponding to a particular setting that is fixed for a particular vehicle on the account. *Id.*, ¶¶ 69-75. That is, *Xiao* requires that each system preference that is set by the operator is *necessarily* vehicle-specific for each automobile 112 on the account. EX2011, ¶¶ 63-66. *Xiao*'s server is constrained to

apply settings only to *that automobile 112* on the account; settings are not transferrable among *vehicles*. EX1010, ¶¶ 69-75.

Xiao's system allows an operator to register for a “wireless automobile key service with automobile service system 104” “by creating an account with automobile service system 104,” wherein each account is “associated with one or more automobiles 112.” *Id.*, ¶¶ 31, 65. After registering and creating an account, the operator may download an “application 302,” allowing the operator, from his/her device, “to set, configure, or modify the operator’s profile information 614.” *Id.*, ¶ 75. *Xiao's* “operator profile information 614” stores “system preferences for the operator *for each automobile 112 on the account.*” *Id.*, ¶¶ 65, 69-74, Fig. 6. These “system preferences” set by the operator and stored in operator profile information 614 “may contain climate control system preferences for the operator *for each automobile 112 on the account*” (*id.*, ¶ 69), “audio system preferences for the operator *for each automobile 112 on the account*” (*id.*, ¶ 70), “comfort preferences for the operator *for each automobile 112 on the account,*” (*id.*, ¶ 71) “awareness system preferences for the operator *for each automobile 112 on the account*” (*id.*, ¶ 72), “engine system preferences for the operator *for each automobile 112 on the account*” (*id.*, ¶ 73), or “security system preferences for the operator *for each automobile 112 on the account*” (*id.*, ¶ 74).

Therefore, *Xiao*'s "operator profile information 614" contains each setting or system preference, set individually by the operator, *for each automobile on the account*. *Id.*, ¶¶ 65, 69-74, Fig. 6. Each setting in *Xiao* is vehicle-specific. EX2011, ¶¶ 63-66.

B. *Xiao*'s system stores each setting of the operator profile 614 for only "the automobile 112" for which the setting applies.

Xiao's system ensures each of the operator's system preferences is fixed to a single automobile 112 on the operator's account; *Xiao* stores those preferences according to the "default automobile 112 for which to provide the disclosed service for the operator." EX1010, ¶ 77. For example, the operator information of *Xiao* includes the aforementioned "operator profile information 614," storing "system preferences for the operator for each automobile 112 on the account," along with the "default automobile 617" which "may identify, for each operator *a default automobile 112 for which to provide the disclosed wireless key service*." *Id.*, ¶ 77. As further illustrated in *Xiao*'s Figure 6, table 602, the operator's system preferences for each automobile will be stored in operator profile information 614 of table 602, with each system preference corresponding to the "default automobile ID 617":

608 OPERATOR ID	610 MOBILE ID	612 AUTHENTICATION INFORMATION	614 PROFILE INFORMATION	616 AUTOMOBILE PERMISSIONS	602 DEFAULT AUTOMOBILE ID
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—

Id., Fig. 6 (annot.). The “default automobile ID 617 may include a vehicle identification number (VIN) **associated with the default automobile 112**” or “other information that may be used to identify **the default automobile 112 for which to provide the disclosed service for the operator.**” *Id.*, ¶ 77.

Thus, *Xiao* stores each setting of operator profile information 614 according to the *automobile 112 for which to provide the disclosed wireless key service*. EX2011, ¶¶ 67-68.

C. *Xiao* selects and displays the automobile 112 for which to apply vehicle-specific settings *before* the operator can issue any command request.

Xiao’s vehicle-specific wireless key service ensures each setting is vehicle-specific and non-transferrable. EX2011, ¶¶ 69-73. *Xiao*’s server automatically retrieves the “default automobile 112” and its corresponding operator profile information 614, both preset by the operator, *before* the operator can issue any command request to apply a setting or “system preference” to a vehicle. EX1010, ¶¶ 95-99, Fig. 9. For example, *Xiao* discloses a “wireless automobile key service page 900” in which the operator enters login data; the server authenticates that login; and “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.*” *Id.*, ¶¶ 95-96. After the server retrieves the profile information 614 for that default automobile 112, the wireless automobile key service page 900 may

display, e.g., via element 904, “the operator’s climate control system preferences, audio system preferences, comfort system preferences, and/or awareness system preferences” for the automobile 112. *Id.* ¶ 105. At login, therefore, the server automatically retrieves the operator’s “default automobile ID 617” (“used to identify the default automobile 112 for which to provide the disclosed service for the operator” (*id.*, ¶ 77)) and the corresponding “system preferences” for that automobile 112 *before* displaying to the operator the “automobile key menu 912” of possible **command requests**, e.g., “start automobile,” “lock/unlock door” or “apply operator profile settings,” as shown in annotated Figure 9 below:

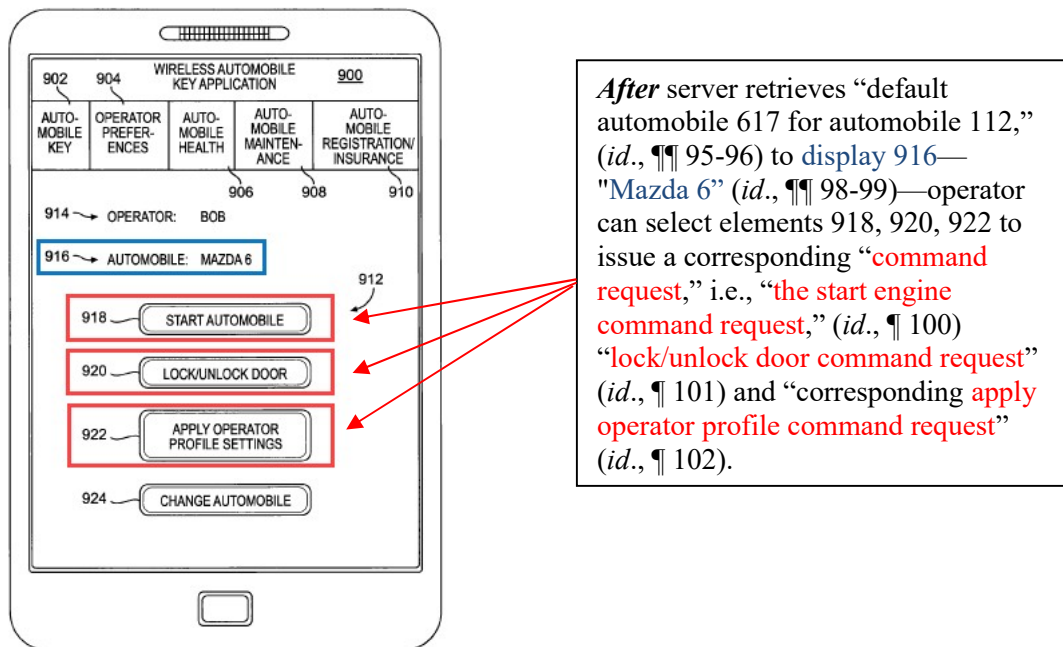


FIG. 9

EX1010, Fig. 9 (annot.), ¶¶ 95-102.

It is only *after* an authenticated login of operator “Bob,” and therefore *after* the server 118 has retrieved the “default automobile,” that the “automobile key menu” then displays “an automobile name display 916,” to “indicate the name of *the automobile 112 currently selected for providing the disclosed wireless automobile key service.*” *Id.*, ¶ 99, Fig. 9. As shown in Figure 9 above, the “automobile 112” automatically selected by the server after Bob’s login is Bob’s “Mazda 6.” *Id.* If the operator, Bob, wished to change the automobile from the automatically selected default automobile 112, Bob would need to select the “change automobile” user interface element 924 to “select[] a different automobile 112 on the wireless automobile key service account,” and “subsequently, the operator may be able to perform the various automobile key service with respect to the selected new automobile 112” “and may apply *the preferences indicated in the operator profile information 614 to the systems of the new automobile 112[.]*” *Id.*, ¶¶ 110-111, Fig. 9.

Only upon manually changing the automobile 112 on the account can the operator apply *that automobile’s* operator profile information 614 system preferences to the systems of the new automobile 112. *Id.*, ¶¶ 95-99, 110-111, Fig. 9. The **command requests** are not available to the operator until *after* the server selects the vehicle, **displayed as 916**, and *after* the server retrieves that automobile 112’s

preset system preferences from the operator's profile information 614. *Id.*, ¶¶ 95-97, 105, Fig. 6 (table 602); EX2011, ¶¶ 69-73.

D. *Xiao's* command request—containing (1) an automobile ID for *the* automobile 112 for which to provide the service and (2) a command ID for each command that can be issued to *the* automobile 112—is always vehicle-specific.

Because *Xiao's* server retrieves the automobile 112 for providing the wireless automobile key service *before* the wireless automobile key application 900 displays the “automobile key menu 912,” containing the available user interface elements for issuing command requests to that selected automobile 112—e.g., “start engine,” “lock/unlock,” and “apply settings”—*Xiao* ensures that these command requests will always be *vehicle-specific*:

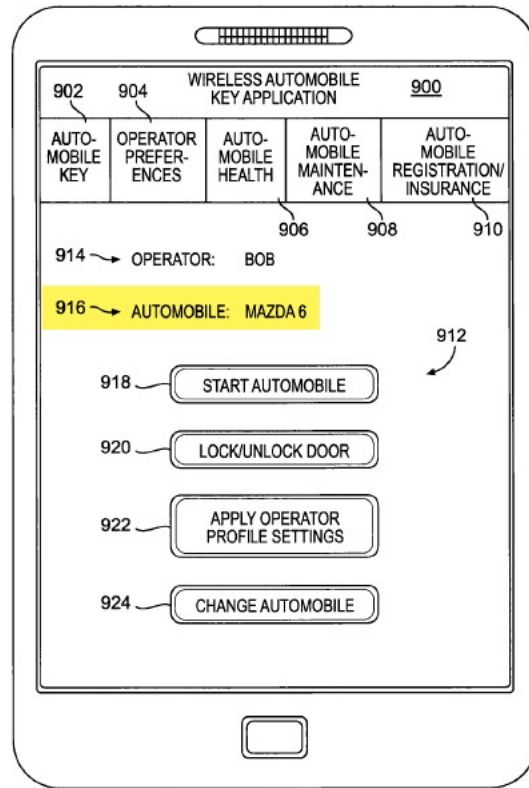


FIG. 9

EX1010, Fig. 9 (annot.).

For example, by “selecting element 918 on a touch screen” of a mobile device or terminal device, that device “may transmit a start engine command request” over the Internet, wherein “[s]erver 118 may receive the start engine command request from the Internet 108.” *Id.*, ¶ 100. Each command request, *Xiao* teaches, contains a particular “automobile ID 628 and command ID 630” for that command request. *Id.*, ¶ 88. The “automobile ID 628 and command ID 630 contained in a command request” enable “server 118 to look up a particular command code.” *Id.* Not only does the “automobile ID 628” identify and correspond to a particular automobile 112

(e.g., *id.*, ¶ 86), so too does any “command ID 630,” which *Xiao* defines as an ID for “*each command that may be issued to the automobile 112*” (*id.*, ¶ 87). Indeed, the command ID 630 and command code 632 are stored together in table 606 of Figure 6, according to each automobile ID 628:

AUTOMOBILE COMMAND INFORMATION		
AUTOMOBILE ID	COMMAND ID	COMMAND CODE
—	—	—
—	—	—
—	—	—

Id., Fig. 6 (table 606).

Thus, when the operator, Bob, selects element 918 from the touch screen (e.g., *id.*, Fig. 9) to issue a “start engine” command request for the already-selected automobile 112 (displayed as “Mazda 6”) the server ***can only retrieve*** the command code 632 particular to that specific automobile 112. *Id.*, ¶ 100, Figs. 6, 9. That is, “[u]sing the automobile ID 608 and the command ID 630, server 118 may retrieve, from automobile command information 606, the command code 632 corresponding to the engine start command for the operator’s automobile 112.” *Id.*, ¶ 100, Fig. 6.

Indeed, *Xiao*’s system follows this exact protocol when the user, Bob, selects the “apply settings” element 922. Before selecting “element 922,” Bob has already logged in, the server has already authenticated that login, and the server has already selected the default automobile 617 identifying “a default automobile 112 for which

to provide the disclosed wireless automobile key service.” *Id.*, ¶¶ 77, 95-96. Because Bob’s default automobile 112 is already selected at login authentication, and both the automobile ID 628 and command ID 630 are fixed to that automobile 112, at the moment when the server receives any “command request” issued by Bob via application 900, the server can **only** “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[.]” *Id.*, ¶ 88.

In other words, Bob cannot issue any command request to apply any setting to any automobile until the server selects Bob’s “automobile 112 for which to provide the disclosed wireless automobile key service.” *Id.*, ¶¶ 86-88, 77, 100, Figs. 6, 9. That command request, by *Xiao*’s definition, contains the “automobile ID 628” and “command ID 630 for each command that may be issued to the automobile 112.” *Id.*, ¶¶ 86-88; EX2011, ¶¶ 74-77.

For example, when Bob selects “apply operator profile settings UI element 922,” and the server receives the “operator profile command request,” the server retrieves from the corresponding profile information “certain desired settings of the systems of automobile 112.” EX1010, ¶ 102. And based on those “desired settings of the systems of automobile 112,” the server utilizes “the command IDs 630 associated with the operator’s desired system settings 614” to retrieve the corresponding “command codes for these systems from automobile command code

information 606.” *Id.*, ¶¶ 102-103. Therefore, any command request, e.g., to apply any “desired settings of the systems of automobile 112,” is already fixed to a specific vehicle. *Id.* The server may only “look up appropriate command codes 632 based on the automobile ID 627 and the command IDs 630 associated with the operator’s desired system settings 614.” *Id.*; EX2011, ¶ 78.

Indeed, *Xiao*’s method for processing wireless automobile key commands, shown in Figure 11, and relied upon heavily by the Petition, confirms the vehicle-specificity of every vehicle setting. For example, upon receiving a command request, with the “automobile ID 628 and command ID 630 contained in a command request” (EX1010, ¶ 88), the server “may generate one or more commands based on the command codes 632 to control the automobile systems to achieve the operator’s desired settings” (*id.*, ¶ 103). “[T]o customize the settings [of] one or more systems onboard the automobile 112 based on a profile associated with the operator,” server 118 receives a command request *containing the specific automobile ID* and command ID for the command to be issued to that automobile 112. *Id.*, ¶ 126. The server is limited to providing the “appropriate command code 632” for that vehicle. *Id.*, ¶¶ 103-104, 126, 87-88; EX2011, ¶ 79.

E. *Xiao's system is constrained to be vehicle-specific at every stage before any command request can be issued.*

Before any command request may be issued, *Xiao's* application page 900 already constrains the possible options for applying any settings—the automobile 112 has already been selected by the server for providing the wireless automobile key service immediately after operator login authentication. *E.g.*, EX1010, ¶¶ 95-96. Then, when an operator selects a UI element of key menu 912 from application 900 (*id.*, fig. 9, ¶¶ 99-102), *e.g.*, to issue a command request to “start engine” or “apply settings,” the server is further constrained by the “command request” containing the automobile ID 628 and command ID 630 that will only correspond to the “command code 632 associated with each command that may be issued to *the automobile 112*” (*id.*, ¶¶ 87, 99-102); EX2011, ¶ 80.

When *Xiao's* server does “generate” a command, this operation too is vehicle-specific and is nothing more than a relay of the retrieved command code 632 that corresponds to the vehicle-specific automobile ID and vehicle-specific command ID contained in the command request. EX1010, ¶¶ 100 (upon server receiving “the start engine command request,” and “using the automobile ID 608 and the command ID 630,” server may retrieve “the command code 632 corresponding to the engine start command for the operator’s automobile 112[,] [t]hen *server 118 may transmit the retrieved command code 632 to the automobile 112*”), 101 (“[t]he lock/unlock door

command may be generated and communicated to the automobile 112 in a similar manner as discussed above with respect to the start automobile command”), 102 (“automobile service server 118 may look up appropriate command codes 632 based on the automobile ID 627 and on the command IDs 630 ... [t]hen, automobile service server 118 may generate one or more commands based on the retrieved command codes 632”). Accordingly, when the server “generates” a command to be transmitted to the automobile 112 for subsequent programming, the command code retrieved and relayed by *Xiao*’s server is a foregone conclusion and necessarily vehicle-specific. EX2011, ¶¶ 81-82.

Xiao’s system prohibits applying any of its vehicle-specific settings to any other vehicle and therefore cannot perform one of the disclosed objectives of the ’268 Patent: the transfer of user profile settings between multiple vehicles.

IV. Grounds 1, 3a and 4a fail because *Xiao* does not disclose at least elements 10[a], 10[b], and 10[c], or their required order.

Grounds 1, 3a and 4a fail because *Xiao*, the sole reference relied upon for independent claim elements 10[a], 10[b], and 10[c], fails to disclose them. *Xiao* fails to disclose the server performing a “compatibility check” required of 10[c] and 20[a], fails to disclose “the user profile” of elements 10[a], 10[b], and 10[c], and further fails to disclose these limitations as arranged in claim 10.

Elements 10[b] and 10[c] recite operations involving “the user profile.” EX1001, 33:6-15. The antecedent basis for “the user profile” is element 10[a], which states: “the user profile defining one or more settings that are preferred to be set *in vehicles* if the vehicles support the settings.” *Id.*, 33:1-5. For “the user profile” settings of elements 10[b] and 10[c], each setting is preferred to be set *in vehicles* (at least two). *Id.*, 33:1-15, 12:31-39 (“[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 . . . to where vehicle settings are user specific . . . allow[ing] each user to apply his or her settings to any vehicle”). By contrast, *Xiao*’s system is configured to be one setting to one vehicle, or many settings to one vehicle, but never discloses any setting that is preferred to be set *in vehicles*. See Sections III.A.-B. *supra*. Thus, as detailed further below, *Xiao* cannot disclose “applying *the user profile*” as required by 10[b] or “determining . . . applicable settings, the applicable settings being settings . . . from *the user profile* . . .” as recited in 10[c]. *Id.*, 33:1-15; EX2011, ¶ 90.

Though the Petition adds references *Patenaude* and *Singh* to Grounds 3a and 4a, these references do not cure *Xiao*’s lack of disclosure of these elements of claim 10, and Toyota offers no argument or analysis to the contrary. *Id.*, ¶¶ 90, 150.

A. *Xiao* fails to teach the “compatibility check” of elements 10[c] and 20[a].

As described above, for claim elements 10[c] and 20[a], “Toyota agrees that the server / cloud based system performs the compatibility check.” EX2017 at 28. The '268 Patent enables a user to set all settings “preferred to be set in vehicles,” and then, whenever a user enters a vehicle, all compatible user profile settings are applied. *See, e.g.*, EX1001, Fig. 7. This is enabled by a compatibility check that involves the server determining whether *two sets* of settings are compatible with one another and are therefore “applicable settings for the selected vehicle”: (1) settings that are preferred to be set, as identified from the user profile and (2) the “settings that are settable in the selected vehicle.” *Id.*, 33:11-15 (element 10[c]), 34:48-51 (element 20[a]) (“the user profile ... wherein certain of the user profile settings are determined to be compatible for use with the vehicle”).

As explained in the specification, the “compatibility check” enables the transfer of settings among multiple vehicles: a “user profile defin[es] one or more settings that are preferred to be set *in vehicles*” (element 10[a]), and after “identifying a selected vehicle for applying the user profile” which has “a plurality of settable settings” (element 10[b]), the server then determines which settings are “applicable settings” by performing a compatibility check between “the user profile” settings and “the settings that are settable on the selected vehicle” (element 10[c]),

before the server sends those “applicable settings” for programming to the selected vehicle (element 10[d]). *Id.*, 33:1-21, Fig. 7, 17:3-7.

1. *Xiao* fails to disclose the required compatibility check functionality of 10[c].

The Petition identifies *Xiao*’s disclosure of Figure 11’s “generate command” step as the required “determining” operation of element 10[c]. Pet. 25-27, 63-67 (citing EX1010, ¶¶ 103, 126, Fig. 11). However, the “generate command” step fails to determine any compatibility at all, let alone compatibility between *settings from “the user profile”* and settings that are settable in the selected vehicle. No such determination can be made by *Xiao*’s server—by a “generate command” or other operation—because every setting in *Xiao* is vehicle-specific from the outset. EX2011, ¶ 93.

As shown in Sections III.D.-E. above, *Xiao* makes clear that this “generate command” operation must always be vehicle-specific and is nothing more than a relay of the retrieved command code 632 that corresponds to the vehicle-specific automobile ID and vehicle-specific command ID contained in the command request. EX1010, ¶¶ 100-103 (“automobile service server 118 may look up appropriate command codes 632 based on the automobile ID 627 and on the command IDs 630 ... [t]hen, automobile service server 118 may generate one or more commands based on the retrieved command codes 632”). Accordingly, when the server “generates” a

command, there is no “determining” “applicable settings, applicable settings being”:
(1) *the user profile* settings, “the user profile defining one or more settings that are preferred to be set *in vehicles*,” and are compatible with (2) settings that are settable in the selected vehicle. *See* EX1001, 33:1-15. The required compatibility check of claim 10 is not disclosed by a server’s constrained relay of a vehicle-specific command code. *See* Sections III.C.-E; EX2011, ¶¶ 92-94.

Moreover, as shown in Section IV.C. below, neither the server’s “look up” nor its “retrieval” of “a particular command code” or of “appropriate command codes” discloses the required “determining ... applicable settings” functionality of element 10[c], since *Xiao*’s look up or retrieval of any command code is always fixed as vehicle-specific: i.e., “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[.]” EX1010, ¶ 88. As *Xiao* instructs, it is only in response to the vehicle-specific automobile ID 628 and vehicle-specific command ID 630—already contained in the command request—that the “server 118 may retrieve appropriate command codes 632” or “the server 118 may look up appropriate command codes 632.” *Id.*, ¶ 103; EX2011, ¶ 95. And, as shown above, before any command request can be issued, each system preference is already configured “for each automobile 112 on the account” (EX1010, ¶¶ 69-72, 99-102),

and *Xiao*'s server selects the automobile 112—*before* the operator can issue any command request from page 900. *E.g., id.*, ¶¶ 98-99, Fig. 9, 95-96; EX2011, ¶ 95.

Xiao fails to perform a “compatibility check” between the settings from “*the user profile*”—which must be the antecedent “one or more settings that are preferred to be set *in vehicles*”—and settings that are settable in the selected vehicle, at least because each setting, each automobile ID, each command ID and each command request is vehicle-specific. Therefore, *Xiao* fails to disclose, let alone perform a compatibility check involving, “*the user profile* defining one or more settings that are preferred to be set in vehicles” and “settings that are settable in the selected vehicle.” EX1001, 33:1-5 (claim 10[a]) (“the user profile defining one or more settings that are preferred to be set in vehicles...”), 33:11-15 (claim 10[c]) (“determining ... applicable settings ... 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”). Indeed, in *Xiao*'s static, vehicle-specific system, a POSITA would have recognized there is no need for any compatibility check: *Xiao*, at best, pulls settings that are already specifically linked to the vehicle and are thus compatible. EX2011, ¶ 96.

2. *Xiao* fails to disclose the compatibility check functionality, as illustrated by its failure to disclose claim 14.

Xiao's failure to disclose the required "compatibility check" functionality is highlighted by *Xiao*'s lack of disclosure of dependent claim 14, which is one illustration of the recited compatibility check of element 10[c]. EX1001, 33:61-34:3. As recited in claim 14[a], the server must be *capable of* determining "applicable settings" by "performing a mapping between settings associated with the user profile and settings obtained from an automobile database . . ." *Id.* As described by the '268 Patent, performing this mapping may include the use of a "mapping engine 118" "that communicates with the automakers database to identify the settings, applications, APIs, or modules *that allow integration of Bob's user profile* . . . so that Bob's profile can be sent to car 200." *Id.*, 17:3-7. The specification provides an example of how this "integration" can be achieved, i.e., "a database can be accessed to find a translation metric" that allows for the user profile "settings to be transferred between functions of one vehicle to other vehicles." *Id.*, 22:7-20.

Xiao's "look up" operation, as explained above, fails to perform the recited "determining ... applicable settings" of element 10[c] at least because *Xiao*'s look up disclosure fails to involve "the user profile defining one or more settings preferred to be set in vehicles," let alone performing the required compatibility check functionality between settings from "the user profile" and "settings that are settable

on the selected vehicle.” *Id.*, 33:1-15. For at least the same reason, *Xiao*’s look up operation cannot perform the mapping required of claim 14[a]: i.e., a mapping between settings associated with “the user profile” and settings obtained from an automobile database. *Id.*, 33:61-64; Pet. 57 (identifying *Xiao*’s “look up of a particular command code,” at EX1010, ¶ 88, as claim 14[a]’s recited “performing a mapping”)); EX2011, ¶¶ 97-98.

The server’s “look up” of a particular command code, or of “appropriate command codes,” is always fixed to a specific vehicle, and therefore cannot allow integration of the user profile, defining one or more settings preferred to be set in *vehicles*. The “look up” operation of *Xiao* is functionally limited to the automobile 112 for which each of *Xiao*’s vehicle-specific settings was pre-configured. EX2011, ¶ 99.

B. *Xiao* fails to teach “vehicle for applying *the* user profile,” as recited by element 10[b].

In a similar vein, Petitioner fails to demonstrate that *Xiao* satisfies elements 10[a] and 10[b] because the “current selected automobile 112” of *Xiao* is not “a vehicle for applying *the* user profile” of element 10[a]—i.e., a user profile “defining one or more settings that are preferred to be set *in vehicles*...” EX1001, 33:1-10. Instead, both the “command request” (identified by Petitioner for the alleged disclosure of element 10[a]), and the “automobile name display 916,” indicating

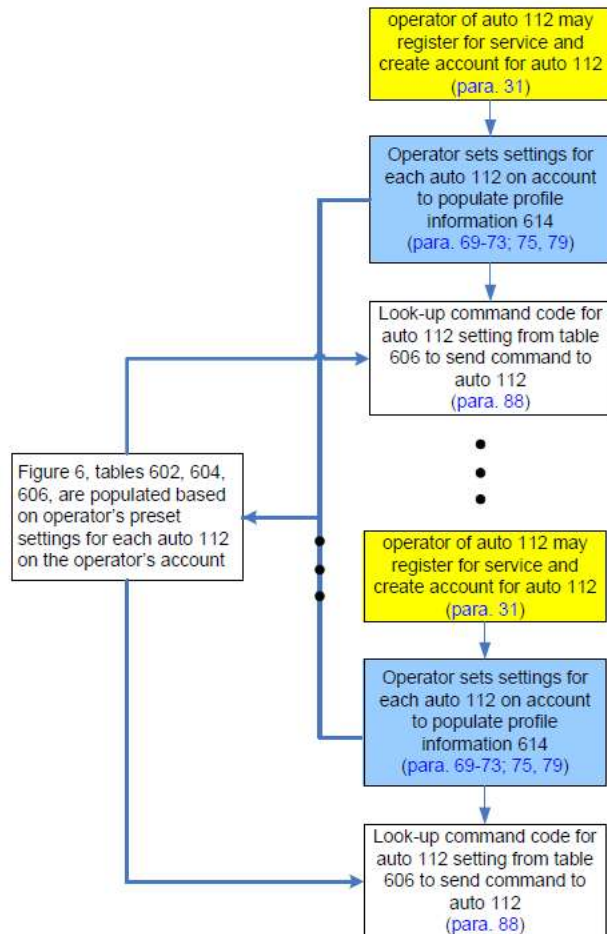
“the name of the automobile 112 currently selected for providing the disclosed wireless automobile key service” (relied on as to element 10[b]), are constrained to one, single vehicle. EX2011, ¶ 100. That is, while a key purpose of the ’268 Patent is a user profile having a set of “one or more settings” that can be applied to many vehicles, *Xiao* is limited to applying any setting to one and only one vehicle. *Id.*

Xiao makes clear that its system can only apply vehicle-specific system preferences to *that* vehicle, never applying “one or more settings that are preferred to be set *in vehicles*.” EX1001, 33:1-5; *see supra*, Sections III.A.-E. *Xiao*’s system cannot disclose element 10[b], “a selected vehicle for applying *the user profile*,” because *Xiao* cannot apply *the user profile* defined by element 10[a]: “one or more settings that are preferred to be set *in vehicles*.” *Id.* Instead, *Xiao*’s server is constrained to apply only vehicle-specific system preferences to that specific automobile 112, *at least because* (1) the operator configures settings, or system preferences, *for the automobile 112* (EX1010, ¶¶ 69-72), (2) *Xiao*’s system stores system preferences only for the automobile 112 in operator profile information 614 according to that “automobile ID” (*id.*, ¶ 77, Fig. 6), (3) the server retrieves *the default automobile ID 617* and its corresponding operator profile information 614 after the operator’s login is authenticated (*id.*, ¶¶ 95-96), (4) only after the “display the name of *the automobile 112*” “for which to provide the disclosed wireless automobile key service” appears on *Xiao*’s page 900 (Fig. 9), will the system allow

an operator to select touch screen UI elements 918 (“start automobile” command request), 920 (“lock/unlock door” command request), 922 (“apply operator profile settings” command request), corresponding to individual command requests for the “automobile 112 currently selected” (*id.*, ¶¶ 99-102, Fig. 9), and (5) when that command request is transmitted to the server, it already contains “*the automobile ID 628*” for which to provide the disclosed wireless automobile key service, and the “command ID 630 for each command that may be issued to *the automobile 112*” (*id.*, ¶¶ 87-88, 99-102). At every point, therefore, *Xiao* constrains its settings to be only vehicle-specific and likewise constrains each its operations involving settings, i.e., the retrieval, look-up and application of settings, as vehicle-specific. EX2011, ¶ 101; *see* Sections III.A.-E.

Xiao never discloses settings that are preferred to be set *in vehicles*, let alone selects a vehicle to “apply” “one or more settings that are preferred to be set in *vehicles*,” as elements 10[a] and 10[b] require. Instead, upon registering and creating an account, *Xiao* requires the user to first add a vehicle to the account, then configure his/her settings “for each automobile 112 on the account,” and the “operator preferences menu UI element 904” can only be modified vehicle-by-vehicle (page 900 unavailable until after server retrieves the automobile 112 for which to provide the disclosed wireless key service). EX1010, ¶¶ 99-102, 105, Fig. 9. That is, the user in *Xiao* must individually enter settings for each vehicle, no

matter what settings the user has already entered for any other vehicle in his/her account.



See id., ¶¶ 31, 69-73, 75, 79, 88, Fig. 6. *Xiao* fails to disclose element 10[b] because *Xiao*'s settings are configured as vehicle-specific, stored as vehicle-specific, and applied according to a vehicle-specific command request, vehicle-specific command code retrieval, and vehicle-specific command code transmission onto *the automobile 112*. The above diagram, outlining teachings of *Xiao*, shows that for each vehicle, the user must (1) identify the vehicle when registering and creating an

account, (2) set settings that are stored to the relational database of *Xiao*'s Figure 6 for *that* specific vehicle, and (3) issue vehicle-specific command requests, allowing a server retrieval of vehicle-specific command codes when needed. As demonstrated above, this prior art mechanism is not unlike the prior art problem described by the inventors at EX1001, 12:31-39, and for which the claims recite a solution to the problem. EX2011, ¶¶ 102-104.

Accordingly, *Xiao* cannot disclose the recited “identifying a selected vehicle for applying *the user profile*” (10[b]), “the user profile defining one or more settings that are preferred to be set *in vehicles*” (10[a]).

C. *Xiao* fails to disclose element 10[c] because each of its settings is always vehicle-specific and cannot be the recited settings from “the user profile.”

Similarly, *Xiao*'s server does not disclose element 10[c] because at least one of the two sets of settings to be determined “compatible” is missing from *Xiao* altogether: “settings that are preferred to be set as identified from the user profile.” EX1001, 33:11-15. *Xiao*'s system lacks “*the* user profile,” defined in element 10[a], which is “the user profile defining one or more settings that are preferred to be set *in vehicles* ...” *Id.*, 33:1-5. *Xiao* does not disclose any settings that can be set in multiple *vehicles*, as the settings are specific to only one vehicle. EX2011, ¶ 105. As shown above, each of *Xiao*'s settings is always vehicle-specific, e.g., “audio system preferences for the operator *for each automobile 112 on the account.*” EX1010,

¶ 70; *see id.*, ¶¶ 69 (same as to “climate control ... for each automobile 112 on the account”), 71 (same as to comfort system preferences). Indeed, from the outset, i.e., upon registering and creating an account, *Xiao*’s operator configures system preferences “for each automobile 112.” *Id.*, ¶¶ 31, 75. *Xiao*’s system constrains the operator to configure (or later modify) each setting specific to a particular automobile 112. *Id.*, ¶¶ 69-75. Put another way, no setting in *Xiao* is “preferred to be set *in vehicles*,” but instead, is always fixed to a specific vehicle. *Id.*; EX1001, 33:1-5; 12:31-39; EX2011, ¶ 106.

Likewise, *Xiao*’s system ensures that each of the operator’s system preferences is fixed to a particular automobile 112 on the operator’s account because each of the operator’s system preferences for each automobile is stored in operator profile information 614 of table 602, where each system preference corresponds to “*a default automobile 112 for which to provide the disclosed wireless key service.*” EX1010, ¶ 77; *see supra*, Sections III.A.-B. *Xiao*’s “operator profile information 614” stores “system preferences for the operator *for each automobile 112 on the account.*” *Id.*, ¶¶ 65, 69-74, Fig. 6. Thus, whether *Xiao*’s server “receives,” “retrieves,” or “look[s] up” any setting whatsoever, e.g., from the operator profile information 614, that setting is always configured and designated only for one specific vehicle. EX2011, ¶ 107. The vehicle-specific settings of *Xiao* are not the “one or more settings that are preferred to be set *in vehicles*,” that claim 10 requires.

EX1001, 33:1-5 (element 10[a]), 33:6-10 (“a selected vehicle for applying *the user profile* ...”) (element 10[b]), 33:11-15 (“settings that are preferred to be set as identified from *the user profile* ...”) (element 10[c]). Indeed, each setting in *Xiao* can only be applied to one—and only one—specific automobile via a specific “automobile ID” for that automobile. EX2011, ¶ 107. Thus, regardless of the wireless automobile key service being fulfilled by *Xiao*’s server, the system will always “identify *the default automobile 112 for which to provide the disclosed service* for the operator.” EX1010, ¶ 77. That is, the disclosed *service* of *Xiao* is always vehicle-specific. EX2011, ¶ 107.

This vehicle-specificity likewise applies when *Xiao*’s server looks up “appropriate command codes.” EX1010, ¶ 103. The Petition and Institution Decision point to this disclosure of *Xiao* as allegedly disclosing the applicable settings of element 10[c]—before the parties agreed to the required “compatibility check.” Pet. 25-26; Decision, Paper 11 at 27-28. But as shown above, those “appropriate command codes” are fixed as vehicle-specific, at least by the preceding “command request” received by the server, and by the storage of each command code 632 in table 606. EX1010, ¶¶ 69-75, 77, 87-88. 99-103; Sections III.C.-D., *supra*. Therefore these “appropriate command codes” cannot be the result of the server’s compatibility check between the two required sets of element 10[c]: (1) settings from “*the user profile*” and (2) settings that are settable on the selected vehicle. EX2011, ¶ 108.

As detailed in Sections III.D.-E. above, *Xiao* makes clear that the server may “retrieve” and “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.” EX1010, ¶ 103. But the “the automobile ID” is vehicle-specific, as is each “command ID 630.” *Id.*, ¶¶ 87-88, 100-103. *Xiao*’s automobile ID contains “information that may be used to identify the automobile 112.” *Id.*, ¶ 86. Indeed, table 606 of Figure 6 contains “an automobile ID 628 associated with *the automobile 112.*” *Id.* Each automobile ID stored in table 606 is therefore vehicle-specific. Thus, a check to determine if the settings are compatible with the vehicle would make no sense in *Xiao*, as the settings were already set for that specific vehicle. EX2011, ¶ 109.

Equally vehicle-specific is each command ID used by the server to look up “appropriate command codes.” *Xiao* makes clear that every command ID is “a command ID 630 for *each command* that may be issued to *the automobile 112.*” EX1010, ¶ 87. Each command ID 630 “may be the name of the command,” such as a power on/off command, temperature setting command, etc., and, with each preset system preference configured “*for each automobile 112,*” table 606 stores “a command ID 630 for each command that may be issued to the automobile 112.” *Id.*, ¶¶ 85-87; Fig. 6. Each command ID is thus also vehicle-specific. EX2011, ¶ 110.

It is only in response to receipt of a “command request” that *Xiao*’s server may retrieve or look up a command code 632. That is, *Xiao*’s “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* by the mobile device 110[.]” EX1010, ¶ 88. Thus, it is only in response to the vehicle-specific automobile ID 628 and vehicle-specific command ID 630—already contained in the command request—that the “server 118 may retrieve appropriate command codes 632” or “the server 118 may look up appropriate command codes 632.” *Id.*, ¶ 103. These “appropriate command codes 632” are already fixed to the automobile ID and the vehicle-specific command ID and are likewise vehicle-specific. EX2011, ¶ 111.

Any “appropriate command code” is already constrained by the vehicle-specific automobile ID and vehicle-specific command ID (EX1010, ¶¶ 85-88) and further constrained by the system preference which was already configured “for each automobile 112 on the account” (*id.*, ¶¶ 69-72), *before* any command request could be issued (*id.*, ¶¶ 99-102). Additionally, *Xiao*’s server selects *the automobile 112* – shown as the “automobile name display 916” to “indicate the name of the automobile 112 selected for providing the disclosed wireless automobile key service”—*before* the operator can issue any command request. *E.g., id.*, ¶¶ 98-99, Fig. 9, 95-96.

Accordingly, the retrieval or look up of “appropriate command codes” by *Xiao*’s server cannot be the required “determining ... applicable settings” of claim

10, nor can these retrieved or looked up “command codes” disclose the “applicable settings” required of claim 10. EX2011, ¶¶ 112-113.

D. *Xiao* fails because the aspects relied on as to element 10[a] occur *after* those relied on for element 10[b].

As demonstrated in Sections III.A.-E., *Xiao* is static—settings can only be vehicle-specific and non-transferrable. Given the stark difference in *Xiao*, whose system is disparaged in the '268 Patent as the “current state of the art,” Petitioner is forced to point to out of order pieces of *Xiao* for elements 10[a]-10[b]. Indeed, the Petition repeatedly disregards “the part-to-part relationships set forth in the claims and that give the claims their meaning,” instead “treating the claims as mere catalogs of separate parts.” *See NetMoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008) (reversing lower court’s anticipation ruling because the prior art’s protocols failed to contain all five elements “arranged or combined in the same way as claimed”). “[O]ne seeking to invalidate a patent may not demonstrate invalidity of a claim simply by citing isolated steps in prior art that are not combined in the same fashion as the patent. . . . To the contrary, the Federal Circuit has repeatedly made clear that ‘to anticipate, every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim.’” *Chem. Separation Tech., Inc. v. United States*, 51 Fed. Cl. 771, 814 (2002) (“critically, such

proof of combination in a single source, arranged as described in the claim, is deficient here”).

The Petitioner relies on *Xiao*’s “command request” as the claimed “information” of limitation of 10[a]. Pet., 20. The Petitioner next identifies *Xiao*’s “automobile name display” as the claimed “identifying a selected vehicle” of limitation 10[b]. *Id.*, 23. However, *Xiao*’s server cannot receive any “command request” until (1) **after** the operator’s login is authenticated (EX1010, ¶¶ 95-96, 99-102), (2) **after** the server selects the default automobile 112 for which to apply the disclosed wireless key service (Pet., 23), (3) **after** that selected automobile 112 is displayed as “automobile display name 916” to “indicate the name of the automobile 112 currently selected for providing the disclosed wireless automobile key service” (EX1010, ¶ 99, Fig. 9), (4) **after** the operator selects a touch screen element, e.g., element 918, 920, or 922, corresponding to a command request (*id.*, ¶¶ 98-102), and (5) **after** the mobile device or terminal device transmits that operator-issued command request to the server (*id.*, ¶¶ 100-102); EX2011, ¶ 114.

A fundamental and fatal flaw to the Petition, therefore, is its reliance on *Xiao*’s “**command request**” as allegedly disclosing element 10[a], but also *Xiao*’s “**‘automobile name display 916’ that ‘may indicate the name of the automobile 112 currently selected’ (Mazda 6)**” for alleged disclosure of element 10[b], as *Xiao*’s

server cannot receive any **command request** until *after* the server retrieves “the automobile 112 currently selected,” reflected as “**automobile name display 916**”:

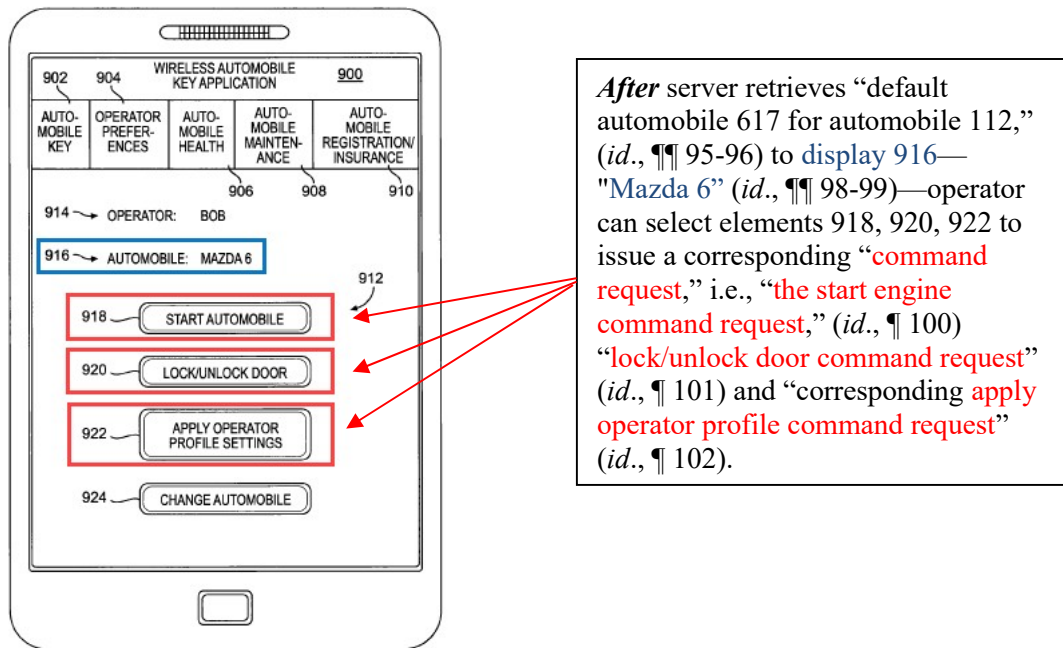


FIG. 9

EX1010, Fig. 9 (annot.), ¶¶ 95-96, 98-102; Pet. 19-24; EX2011, ¶ 114. Thus, the disclosure in *Xiao* relied on for element 10[b] concerns a selection that *Xiao* confirms is made *before* any command request can be issued. EX2011, ¶ 114.

Accordingly, the Petition cannot show that at least elements 10[a] and 10[b] are disclosed by *Xiao* in the order claimed because when *Xiao*’s server receives a **command request**, the vehicle displayed as “**automobile name display 916**,” i.e., “**Mazda 6**,” has *already been selected*. EX1010, ¶¶ 77, 95-99. That is, *Xiao* cannot “disclose all elements arranged as in the claim,” as required. *NetMoneyIN*, 545 F.3d at 1369-70. “[U]nless a reference discloses within the four corners of the document

not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 U.S.C. § 102.” *Id.* at 1371; *see also Therasense, Inc. v. Becton, Dickinson & Co.*, 593 F.3d 1325, 1332 (Fed. Cir. 2010) (“The requirement that the prior art elements themselves be arranged as in the claim means that claims cannot be treated ... as mere catalogs of separate parts, in disregard of the part-to-part relationships set forth in the claims and that give the claims their meaning.”) (internal citation omitted). The Petition cherry-picks piecemeal disclosures of *Xiao* that make no sense in relation to one another, and in fact expressly negate the order of steps required of claim 10.

Indeed, the failures of Toyota’s Petition are remarkably similar to the failures of proof identified by the Board in *Askeladden*, Paper 7 at 20-22. There the Board found that the Petition failed to establish that claim 1 was anticipated because the Petition failed to identify any disclosure indicating that the “process of determining which payment options are available . . . (relied on as to element 1G) occurs *before* the process of paying the merchant based on the consumer’s credit (relied on as to element 1H).” *Id.* at 22. The Board explained: “Because the process of determining which payment options are available to satisfy the debt to the credit issuer incurred by the consumer in Keithley (relied on as to element 1G) is consistently described as occurring *after* the process of paying the merchant based on the consumer’s credit

(relied on as to element 1H), Petitioner has not shown that these aspects of Keithley satisfy claim 1,” where “elements 1F and 1G are conditions precedent that must occur before element 1H.” *Id.* at 20 (emphasis in original).

Accordingly, Grounds 1, 3a and 4a fail because the relied-upon disclosures of *Xiao* do not meet the required order of at least elements 10[a] and 10[b].

E. Claims 17, 18 and 19 must be upheld because *Xiao* fails to disclose elements required of each claim.

In addition to *Xiao*’s failure to disclose elements 10[a], 10[b], and 10[c], as demonstrated in Sections IV.A.-D., above, claims 17 and 19 must be upheld because *Xiao*’s lone “family account” fails to disclose the “sub-user accounts” recited in claims 17 and 19. Claim 17 recites “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 . . . ” EX1001, 34:16-20. Claim 19, dependent on claim 18, further requires that “particular **sub-user accounts** enable access to specific information concerning the selected vehicle . . . wherein said particular **sub-user accounts** are accessible over the Internet for viewing or control using a password.” *Id.*, 34:35-42.

Neither *Xiao*’s disclosure of a “family account,” nor *Xiao*’s storage of “information about each automobile operator on *the* wireless automobile key service *account*,” discloses the recited “sub-user accounts” of claims 17 and 19. Pet. 39-41

(citing EX1010, ¶¶ 66, 76). Also, *Xiao* offers no disclosure of “child accounts,” as argued by the Petition and Dr. Almeroth. *Id.* This is a fiction—there is no disclosure of “child accounts” in *Xiao*. *Id.*; EX2011, ¶¶ 115-116.

On the contrary, *Xiao* instructs that “[o]perator information 602” may “include automobile permissions 616 associated with each operator on *the account*.” EX1010, ¶ 76. For example, *Xiao*’s “family account” may include a “father and mother,” who “may have permission to operate every automobile 112 on *the account*.” *Id.* “Whereas a child may only have permission to operate the child’s automobile 112 or the family automobile 112.” *Id.* As explicitly disclosed by *Xiao*, these relied upon family members are different operators on *one account*—i.e., “the account”—as opposed to the recited “sub-user *accounts*” of claims 17 and 19. *Id.*; EX2011, ¶¶ 115-117.

The Petition’s reliance on paragraph 66 fares no better, as there too *Xiao* makes clear that its system may store information about multiple operators on a single account, as opposed to any “sub-user accounts.” Pet. 39-41 (citing EX1010, ¶ 66) (“operator information 602 may contain information about each automobile operator on *the* wireless automobile key service *account*”)); EX2011, ¶ 118. Because *Xiao*’s lone family account fails to disclose the required “sub-user accounts,” claims 17 and 19 are not anticipated by *Xiao*.

Xiao further fails to disclose the required “administrator account” recited in claim 18. Whether “the vehicle is associated with a car sharing system” (element 18[a]) or “the vehicle is a private vehicle” (element 18[b]), claim 18 requires “**using an administrator account.**” EX1001, 34:21-35. The ’268 Patent makes clear that an administrator account is one in which the administrator can create logins for additional users and users with specific “roles,” and per the express language of both 18[a] and 18[b], the “administrator account” must *at least* be able to “enable or disable settable settings of the selected vehicle.” *Id.*, 34:24-27 (“the settable settings of the selected vehicle can be enabled or disabled using an administrator account”), 34:28-32 (“the settable settings of the selected vehicle can be enabled or disabled using an administrator account”). *Xiao* provides no such disclosure. EX2011, ¶ 119.

For claim 18, the Petition again erroneously relies upon *Xiao*’s disclosure of a “family account,” wherein different account operators may have different limited “permissions,” but *Xiao* offers neither an administrator account, nor any account capable of *enabling or disabling the settable settings of the selected vehicle*, as required by the claim. EX1001, (claim 18); EX1010. The relied upon “permissions” of *Xiao* refer to *which* automobile(s) an operator may operate, not anything to do with “settable settings of the selected vehicle.” EX1010, ¶ 76. *Xiao* makes clear that the “automobile permissions 616 associated with each operator” may “identify the automobile(s) 112 the operator is permitted to operate.” *Id.* Contrary to strained

arguments put forth by the Petition and Dr. Almeroth, therefore, these “permissions” of *Xiao* cannot disclose “settable settings of the selected vehicle [that] can be enabled or disabled.” EX1001, claim 18. EX2011, ¶ 120. *Xiao* cannot anticipate claim 18.

V. Grounds 3a and 3b fail because *Patenaude* does not disclose the required “sending” operation of element 12[c].

Grounds 3a and 3b each rely upon *Patenaude* for alleged disclosure of element 12[c]: “sending the learned settings to the user profile for use or transfer to the selected vehicle.” EX1001, 33:38-39 (claim 12[c]). *Patenaude* fails to disclose or suggest at least element 12[c], and therefore the obviousness combinations of Grounds 3a and 3b fail.

The Petition relies on *Patenaude*’s disclosure of “retrieval” operations, however “retrieving” is not the required “sending” operation of element 12[c]. For example, the Petition relies on *Patenaude*’s “processor 122 in the telematics unit 120” which “*retrieves* the user-specific entertainment selection profile stored in the in-vehicle memory” (Pet. 52, citing EX1011, ¶ 73), and “during stage S612, the telematics unit 120 powers-up at least one entertainment unit . . . based on the *retrieved* user-specific entertainment selection profile” (Pet. 53, citing EX1011, ¶ 74). Neither “retrieval” disclosure of *Patenaude* is the recited “*sending* the learned settings *to* the user profile . . .” EX1001, 33:38-39. Indeed, these disclosures cannot even suggest the required “sending” operation, as a POSITA in this field

would conclude that there is a significant difference between data being pushed (i.e., sending), versus data being pulled (i.e., retrieving). EX2011, ¶¶ 121-122.

As both Grounds 3a and 3b rely on *Patenaude* alone for alleged disclosure of element 12[c], the Petition’s obviousness challenges to claim 12 must fail. Claim 12 should be upheld.

VI. Grounds 2, 3b and 4b all fail because the Petition’s proposed combination with *Hayashi* cannot cure the deficiencies of *Xiao* as to claim elements 10[a], 10[b], and 10[c].

The addition of the *Hayashi* reference does not cure the numerous failures discussed above for Grounds 1, 3a-b, and 4a-b. *Xiao* fails to disclose elements 10[a] and 10[b] as arranged in claim 10. *Hayashi* does nothing to rectify *Xiao*’s failure here, or to remedy *Xiao*’s failure to disclose the claimed “the user profile, defining one or more settings that are preferred to be set in vehicles if the vehicles support the settings,” which is defined in element 10[a] and required by antecedent basis in at least elements 10[b] and 10[c]. Petitioner makes no argument to the contrary (Pet. 45) (proposing combination with “feature” of *Hayashi* for alleged disclosure of element 10[c]’s recited limitation: “compatible with settings that are settable in the selected vehicle”). EX1001, 33:1-15; EX2011, ¶ 124.

Moreover, the two references are not even properly combined. EX2011, ¶¶ 127-133. Even if a POSITA were to make Petitioner’s “minor modification” of *Xiao*, using *Hayashi*’s alleged disclosure of “compatible with settings that are

settable in the selected vehicle” (Pet. 45), the result would not disclose or suggest element 10[c]. Instead, as discussed below, the nonsensical result achieved by the combination would be that *Xiao*’s server, at best, in response to the command request issued by the operator, could “look up” a command code to apply a vehicle-specific setting to that automobile 112, only to find that there is “none.” Pet. 48, 67. Such a result fails to disclose or suggest element 10[c], let alone perform the compatibility check that enables the transfer of the user profile settings to multiple vehicles, as claimed in the ’268 Patent. EX2011, ¶¶ 125-126, 134-135.

Accordingly, Toyota’s failure to demonstrate any disclosure or suggestion of elements 10[a], 10[b] and 10[c] (see Sections IV.A.-D.) applies to and refutes all claims challenged in Grounds 2, 3b and 4b. Though the Petition adds references *Patenaude* and *Singh* to Grounds 3b and 4b, these references do not cure *Xiao* and *Hayashi*’s lack of disclosure on these elements, and Toyota offers no argument or analysis to the contrary. Pet. 50-62. The absence of these elements is fatal to Grounds 2, 3b and 4b of the Petition.

A. *Hayashi*’s system provides instructions to a user on how to manually operate functions of an unfamiliar vehicle, such as how to engage a parking brake.

By way of background, *Hayashi* identifies a problem where a driver “mis-operates a vehicle he/she does not normally use,” such as a rental car, but it is “usually not possible for the driver to check the manual while driving.” EX1013,

¶¶ 2, 4. *Hayashi* seeks to solve that problem by guiding the driver with “operating instructions” for the functions in the unfamiliar car. *Id.*, ¶¶ 2, 4, 123, 120, Abstract. To do so, *Hayashi* teaches a comparison of the features of two vehicles: i.e., *Hayashi*’s system compares the vehicle reserved by a user and a vehicle with which the user is familiar (a vehicle owned or previously rented by the user)—and if the vehicle is an “unfamiliar” one, *Hayashi*’s system will then identify the functions of the unfamiliar vehicle and compare the vehicle functions with those of a “familiar” vehicle. *Id.*, ¶ 122. Those vehicle functions, *Hayashi* teaches, are the car’s shift lever, parking brake, etc. *Id.*, ¶ 120. The “operating methods” are instructions for how to use those vehicle functions, such as where to find that shift lever or parking brake in the car. *Id.*, ¶ 122.

If the result of *Hayashi*’s comparison reveals differences in the functions of the familiar and unfamiliar vehicles, then *Hayashi*’s “driving support apparatus” provides the driver visual and/or audio instructions for the driver, such as how to engage a parking brake. *Id.*, ¶ 0123 (system “graphically depicts the positions of a shift lever, a parking brake, or the like on display portion 250 and guides the operating method thereof by voice.”). *Hayashi*’s “driving support apparatus” leaves it to the driver to manually follow the visual and audio instructions. *Id.*; *see also id.*, ¶¶ 2, 4, 122 (“The operating method may include information such as the positions of levers, switches and the like”).

What Petitioner identifies as “user settings” in *Hayashi* are not: they are simply the vehicle functions (and nothing to do with programming settings for any of said functions), such as a shift lever or parking brake (Pet. 46, “these functions may include *user settings* for the vehicle, such as ‘shift lever, parking brake’”). A POSITA would not understand these functions to qualify as user “settings that are preferred,” as required by claim 10. EX2011, ¶¶ 83-86. Indeed, *Hayashi* provides no disclosure of user preferences for such functions. Instead, *Hayashi* provides guidance to a driver on the manual execution of a task, e.g., where to find or how to engage the parking brake on an unfamiliar vehicle, and leaves it to the driver to manually implement these instructions. EX1013, ¶¶ 122-123.

B. Grounds 2, 3b and 4b all fail because *Xiao*—*ab initio*—is vehicle-specific; the proposed combination for claim 10[c] alone does nothing to remedy *Xiao*’s vehicle-specific operations.

As discussed above, Petitioner only alleges that *Hayashi* accounts for one of *Xiao*’s numerous failures for claim 10. Pet., 45-50 (relying on *Hayashi* only for 10[c]). However, *Hayashi* does not even account for that failure, as a POSITA would have recognized that combining the references as proposed would be nonsensical and nevertheless fail to satisfy the claims. EX2011, ¶ 135.

It is not surprising that *Xiao* never contemplates the notion of compatibility—each setting, each server “look up” operation, each server “retrieval” operation, and each server “generate command” operation is vehicle-specific—and thus there is no

need to perform a compatibility check: each setting is already known to be compatible with its specific vehicle. Therefore, even by combining certain features of *Hayashi* when *Xiao*'s server retrieves command codes, as Petitioner proposes, the end result would not enable a server to determine applicable settings as defined in element 10[c]. Pet. 48, 67. Instead, the addition of *Hayashi*, at best, would only apply in a scenario when there are **no** applicable settings because “none” may be stored in *Xiao*'s table 606 in lieu of “a command code 632 associated with each command that may be issued to the automobile 112” (Pet. 45, 67; EX1010, ¶ 88)—thus no “applicable settings” would be “determined” (or sent to the selected vehicle), as required by claim 10. EX2011, ¶ 136.

The Petition treats “the concept of compatibility determination” in a vacuum, ignoring claim 10's specific requirements that the server must determine “applicable settings for the selected vehicle.” EX1001, 33:11-15. For element 10[c] the server determines “applicable settings,” the applicable settings being **the user profile settings** from element 10[a] that “*are compatible with*” **the settable settings** from 10[b]:

Element 10[a]

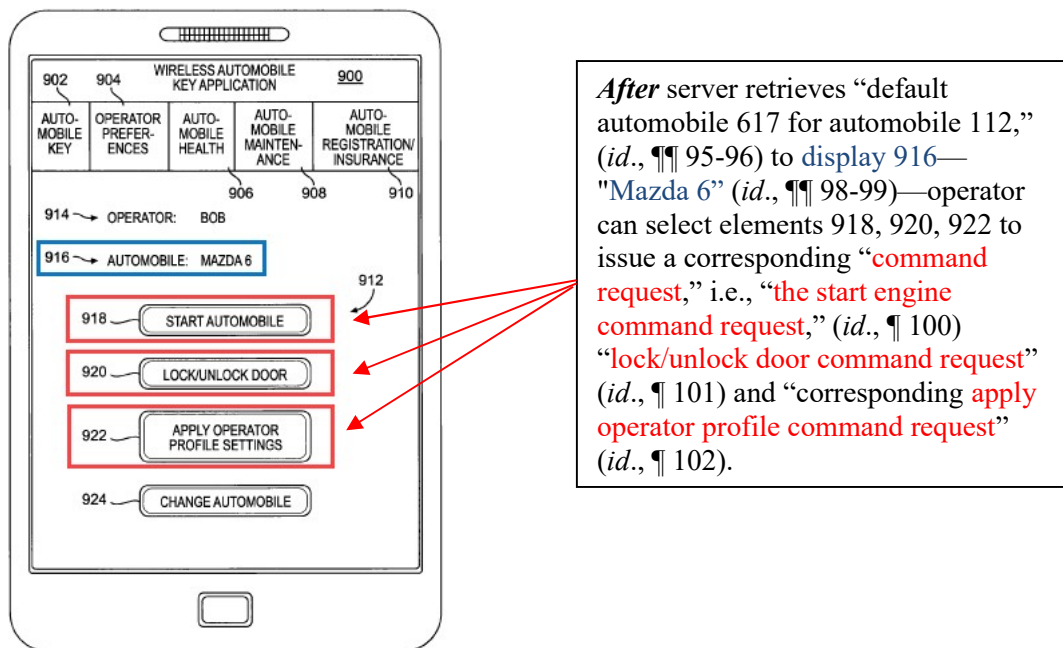
receiving, at a server, information for a user profile of a user, **the user profile defining one or more settings that are preferred to be set in vehicles if the vehicles support the settings;**

Id.

Element 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;

In Petitioner’s proposed *Xiao/Hayashi* combination, the server of *Xiao* retrieves or looks up a particular command code or “appropriate command codes,” an operation that is constrained by the vehicle-specific “automobile ID 628” and vehicle-specific “command ID 630” contained in each **command request** (e.g., “start engine,” “lock/unlock door” and “apply operator profile settings”). EX1010, ¶¶ 88, 100-103. And working backward, that **command request** cannot be issued by an operator, i.e., via key menu elements 918, 920, 922, until *after* the server has retrieved “**automobile name display 916**” “to indicate the name of automobile 112 currently selected for providing the disclosed wireless automobile key service,” as shown in annotated Figure 9 below:



Id., Fig. 9 (annot.), ¶¶ 95-96, 98-102. *Xiao*’s vehicle-specificity is required before any command request can be issued. As such, *Xiao* can only retrieve command codes for one, specific vehicle. EX2011, ¶¶ 137-138.

In the proposed modification, Petitioner seeks to supplement this functionality of *Xiao* in view of *Hayashi* “to indicate that certain commands are compatible/incompatible with certain automobiles.” Pet. 48, 67. But this combination remains vehicle-specific, as demonstrated in the table prepared by Toyota below:

AUTOMOBILE COMMAND INFORMATION		
AUTOMOBILE ID	COMMAND ID	COMMAND CODE
—	—	—
—	—	—
—	—	—
1234	Abcd	None

Annotated Excerpt of Fig. 6 of *Xiao*

Pet. 48, 67 (annotated table prepared by Petitioner). As an initial matter, the required compatibility determination of element 10[c] is not performed at least because, even when modified, *Xiao* has no “settings preferred to be set *in vehicles*.” *Id.*; EX1001, 33:1-5; EX2011, ¶ 139; *see also* Sections IV.A.-C., *supra*. Moreover, regardless of the proposed modification by *Hayashi*, each item of annotated table 606 above remains vehicle-specific —the server of *Xiao* will still use the vehicle-specific

automobile ID 628 and the vehicle-specific command ID 630 in the vehicle-specific command request to look up the command code 632. EX2011, ¶ 139. The only additional operation achieved by Petitioner’s proposed combination is that the server will sometimes retrieve “none” when there is no such command code. *Id.* Petitioner admits this vehicle-specific limitation: “[f]or example there may be an automobile having an automobile ID 628 for which a certain command ID 630 has no corresponding command code 632.” Pet. 49.

A POSITA would not have been motivated to include added functionality to *Xiao*. EX2011, ¶ 140. When *Xiao* pulls command codes using the vehicle ID, a POSITA implementing the system would know the command codes are compatible with the vehicle, since they are specific to the vehicle. *Id.* Thus, all settings are compatible, and there would have been no reason to perform some sort of “compatibility check” to determine that none exist. *Id.*

Moreover, *Hayashi*’s additional functionality would not have satisfied the claims. At best, Petitioner’s added operation to *Xiao* tells the server there is ***no*** “appropriate” or “particular” command code corresponding to the “automobile ID 628 and command ID 630” contained in the vehicle-specific command request. But this would not teach “determining ... applicable settings” or “sending ... the applicable settings ... to the selected vehicle”: there are no applicable settings. *See* EX1001, 33:1-26; EX2011, ¶ 141. Even with this added feature of *Hayashi*, *Xiao*’s

operator would still be stuck with a system that can only apply vehicle-specific settings to the vehicle already selected and displayed via page 900:

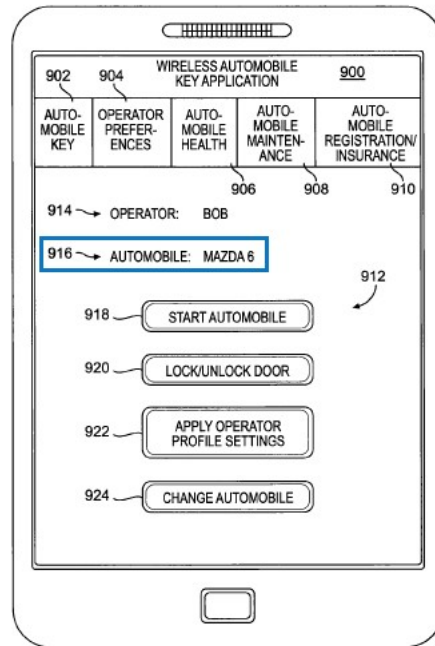


FIG. 9

EX1010, Fig. 9 (annot.), ¶¶ 95-96, 99; EX2011, ¶ 142.

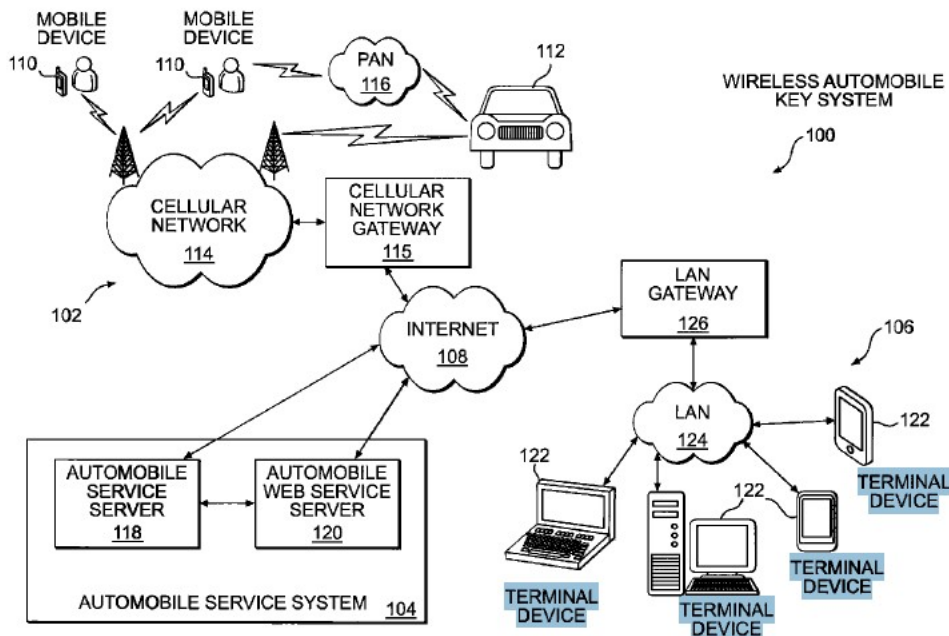
Even when *Xiao* is combined with *Hayashi*, therefore, there is no operation disclosed or suggested to determine that the settings from “the user profile”—“settings that are preferred to be set *in vehicles*”—“are compatible with settings that are settable on the selected vehicle.” EX1001, 33:1-5, 11-15.

VII. Ground 5 fails because *Hayashi* fails to cure *Xiao*’s deficiencies for element 20[a], and *Xiao*, relied on alone for element 20[b], fails to disclose the required “communicating . . . by the vehicle.”

Petitioner relies on the same deficient disclosures from *Xiao* and *Hayashi* for claim 20[a]’s required functionality that, “via a cloud processing system,” “certain

of the user settings are determined to be compatible for use with the vehicle.” Pet. 64-66 (citing, e.g., EX1010, ¶¶ 88, 103-104). But, for the same deficiencies detailed in Sections VI.A.-V. above, neither *Xiao*, nor *Xiao* in combination with *Hayashi*, discloses the required compatibility check functionality. EX2011, ¶¶ 134-143.

Additionally, 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]. EX1001, 34:52-53. Instead, Petitioner and Dr. Almeroth rely on *Xiao*’s disclosure at paragraph 106, which states that a “**mobile device** 110 (or **terminal device** 112) may send a message to server 118 to update the operator’s profile information 614[.]” Pet. 68-69. Both Petitioner and Dr. Almeroth misidentify *Xiao*’s “terminal device” as a vehicle. Pet. 68 (“by the vehicle (e.g., automobile 112)”); EX1009, ¶ 255 (same verbatim). However, *Xiao* makes clear that a “**terminal device**” is not a vehicle:



EX1010, Fig. 1 (annot.); EX2011, ¶ 144.

Additionally, the preceding paragraph of *Xiao* describes an “operator preferences menu UI element 904,” which, when selected by the operator, “mobile device 110 (or terminal device 122) may display an operator preference page (not shown)”:

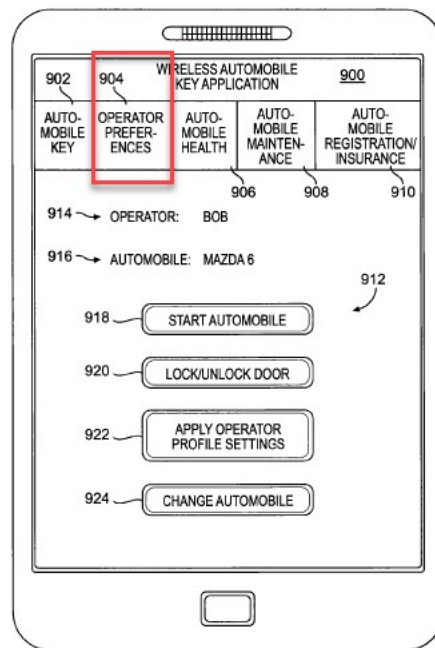


FIG. 9

EX1010, Fig. 9 (annot.). *Xiao* makes clear that this **UI element 904** is only available via a “mobile device 110” application or web browser of a “mobile device 110” or “terminal device 122.” *Id.*, ¶¶ 95-97. Accordingly, the relied upon changes to “operator preferences,” described in *Xiao* (*id.*, ¶¶ 105-106), may ***only be sent via a “mobile device 110” or “a terminal device 122,”*** neither of which is a vehicle. *Id.*, ¶¶ 95-97, Fig. 9; EX2011, ¶¶ 145-146.

Because *Xiao* fails to disclose a vehicle “communicating” changes to user settings, as required by element 20[b], claim 20 must be upheld.

VIII. Conclusion

For all of the reasons given above, including because Toyota has failed to meet its burden of proof or even present credible evidence in support of its Petition, the Board should uphold each of the challenged claims.

Dated: January 16, 2025

Respectfully submitted,

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37 C.F.R. §42.24(d) CERTIFICATION

The undersigned hereby certifies that this submission, excluding the tables of contents, certificate of word count, exhibit list, and certificate of service, contains 13,796 words, as determined using the standard word counting feature of the Microsoft Word program.

Dated: January 16, 2025

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CERTIFICATE OF SERVICE

Petitioner has consented to e-mail service in this proceeding. Pursuant to 37 C.F.R. §42.6, the undersigned certifies that on January 16, 2025, a copy of the foregoing document was served by email upon the following counsel at the below email addresses:

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