

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TOYOTA MOTOR CORP.,
Petitioner,

v.

EMERGING AUTOMOTIVE LLC,
Patent Owner.

Case No. IPR2024-00814
U.S. Patent No. 11,396,244

**DECLARATION OF KEVIN C. ALMEROOTH, PH.D.
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 11,396,244**

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I. INTRODUCTION

1. I, Kevin C. Almeroth, Ph.D., submit this declaration to state my opinions on the matter described below.

2. I have been retained by Petitioner Toyota Motor Corp. (“Petitioner”), as an independent expert in this proceeding before the United States Patent and Trademark Office. Although I am being compensated at my usual and customary rate of \$800 per hour, no part of my compensation depends on the outcome of this proceeding, and I have no other interest in this proceeding.

3. I understand that this proceeding involves U.S. Patent No. 11,396,244 (the “’244 patent”), and I have been asked to provide my opinions as to the patentability of the claims of the ’244 patent. The ’244 patent is assigned to Emerging Automotive LLC (“Patent Owner”).

4. I understand that the application for the ’244 patent was filed on February 11, 2020, and claims priority to several U.S. patent applications as listed in fields (63) and (60) of the ’244 patent. Ex. 1001, 1-2. The ’244 purports to be a continuation of Application No. 16/285,706 filed February 26, 2019, which issued as U.S. Patent No. 10,652,312, which in turn purports to be a continuation of Application No. 14/987,755 filed January 4, 2016, which issued as U.S. Patent No. 10,218,771, which in turn purports to be a continuation of Application No. 13/842,158 filed March 15, 2013, which issued as U.S. Patent No. 9,229,905. U.S.

Patent No. 10,652,312, to which the '244 patent claims priority, also purports to be a continuation-in-part of Application No. 13/452,881 filed April 22, 2012, which issued as U.S. Patent No. 10,217,160. The '244 patent also claims priority to two U.S. provisional applications, one filed December 24, 2012 (Provisional Application No. 61/745,729), and one filed April 22, 2011 (Provisional Application No. 61/478,436). *Id.*

5. I understand that Patent Owner filed a request for Certificate of Correction (“COC”) for the '244 patent on January 17, 2024. Ex. 1002, 627-637. In its request, Patent Owner stated that “an error appears or errors appear” in the '244 patent, and requested that the '244 patent be “corrected” to list the claims that were actually “examined and allowed by the Examiner.” *Id.*

6. During prosecution, I understand the Applicant (which is the same entity as Patent Owner) amended independent claims 1 and 17 of the application for the '244 patent to recite, among other features, “at least one of said plurality of settings being restricted for use on the vehicle.” *Id.*, 198-203. Patent Owner also amended these claims to recite “transferring . . . one or more settings of the plurality of settings to storage of the vehicle.” *Id.* Patent Owner also amended dependent claim 11 to recite “wherein the profile is activated on the vehicle when the user information, including biometrics data, is verified.” *Id.*, 200. I understand these amendments were made by Applicant in order to overcome prior art. *Id.*,

197-208.

7. The claims of the '244 patent issued without the above claim amendments. *Compare* Ex. 1001, 33:9-36:29, *with* Ex. 1002, 198-205. I understand that the omitted limitations were material to the '244 patent, as evidenced by the Examiner's reliance upon them in indicating the claims would be allowable over the art of record. Ex. 1002, 213-214.

8. Although the '244 patent issued with claims 1-20, in the COC, Patent Owner requests that the '244 patent be corrected to add claims 21 and 22, and to add limitations to claims 1, 11, and 17. *Id.*, 633-634.

9. For the purposes of my analysis, I was asked to analyze the claims as allegedly amended by the requested COC. Thus, claims challenged in this IPR include claims 1, 2, and 4-22. In my opinion, whether the COC is granted or not, the challenged claims of the '244 patent are unpatentable because the prior art cited in this petition renders unpatentable the challenged claims, even with the added subject matter in the COC.

10. I was asked to analyze the priority claims of the '244 patent. My opinion, as detailed herein, is that the claims of the '244 patent are entitled to a priority date of no earlier than March 15, 2013 or December 24, 2012, depending on the claim. Specifically, independent claims 1 and 17 are entitled to a priority date of no earlier than December 24, 2012. Dependent claim 4, reciting a feature of

a server determining to update settings based on inputs made to systems of the vehicle during use while the vehicle is associated with the profile of the user account, is entitled to a priority date of no earlier than March 15, 2013. Claims 5-8, 21, and 22, reciting a “learning engine,” among other things, are entitled to a priority date of no earlier than March 15, 2013. The remaining dependent claims (2, 9-16, and 18-20) are entitled to a priority date of no earlier than December 24, 2012.

11. I have been asked to consider the validity of the challenged claims of the '244 patent based on certain prior art references. I have also been asked to consider the state of the art and prior art available as of the effective filing date of those claims of the '244 patent. Based on the prior art discussed in this declaration, it is my opinion that claims 1, 2, and 4-22 of the '244 patent are unpatentable for the reasons provided below.

II. QUALIFICATIONS AND BACKGROUND

12. I believe that I am well qualified to serve as a technical expert in this matter based upon my educational and work experience, and specifically, in the field of vehicle electronics and computing devices. My curriculum vitae (“CV”) is submitted as Exhibit 1004.

13. I am currently a Professor Emeritus in the Department of Computer Science at the University of California, Santa Barbara (UCSB). While active at

UCSB, I held faculty appointments and was a founding member of the Computer Engineering (CE) Program, Media Arts and Technology (MAT) Program, and the Technology Management Program (TMP). I also served as the Associate Director of the Center for Information Technology and Society (CITS) from 1999 to 2012. I have been a faculty member at UCSB since July 1997.

14. I hold three degrees from the Georgia Institute of Technology: (1) a Bachelor of Science degree in Information and Computer Science (with minors in Economics, Technical Communication, and American Literature) earned in June 1992; (2) a Master of Science degree in Computer Science (with specialization in Networking and Systems) earned in June 1994; and (3) a Doctor of Philosophy (Ph.D.) degree in Computer Science (Dissertation Title: Networking and System Support for the Efficient, Scalable Delivery of Services in Interactive Multimedia System, minor in Telecommunications Public Policy) earned in June 1997. During my education, I have taken a wide variety of courses as demonstrated by my minor. My undergraduate degree also included a number of courses more typical of a degree in electrical engineering including digital logic, signal processing, and telecommunications theory.

15. One of the major concentrations of my research over the past 30+ years has been the delivery of multimedia content and data between computing devices, including various network architectures. In my research, I have studied

large-scale content delivery systems, and the use of servers located in a variety of geographic locations to provide scalable delivery to hundreds or thousands of users simultaneously. I have also studied smaller-scale content delivery systems in which content is exchanged between individual computers and portable devices. My work has emphasized the exchange of content more efficiently across computer networks, including the scalable delivery of content to many users, mobile computing, satellite networking, delivering content to mobile devices, and network support for data delivery in wireless networks.

16. In 1992, the initial focus of my research was on the provision of interactive functions (e.g., VCR-style functions like pause, rewind, and fastforward) for near video-on-demand systems in cable systems; in particular, how to aggregate requests for movies at a cable head-end and then how to satisfy a multitude of requests using one audio/video stream broadcast to multiple receivers simultaneously. This research has continually evolved and resulted in the development of techniques to scalably deliver on-demand content, including audio, video, web documents, and other types of data, through the Internet and over other types of networks, including over cable systems, broadband telephone lines, and satellite links.

17. An important component of my research has been investigating the challenges of communicating multimedia content, including video, between

computers and across networks including the Internet. Although the early Internet was used mostly for text-based, non-real time applications, the interest in sharing multimedia content, such as video, quickly developed. Multimedia-based applications ranged from downloading content to a device to streaming multimedia content to be instantly used. One of the challenges was that multimedia content is typically larger than text-only content, but there are also opportunities to use different delivery techniques since multimedia content is more resilient to errors. I have worked on a variety of research problems and used a number of systems that were developed to deliver multimedia content to users. One content-delivery method I have researched is the one-to-many communication facility called “multicast,” first deployed as the Multicast Backbone, a virtual overlay network supporting one-to-many communication. Multicast is one technique that can be used on the Internet to provide streaming media support for complex applications like video-on-demand, distance learning, distributed collaboration, distributed games, and large-scale wireless communication. The delivery of media through multicast often involves using Internet infrastructure, devices and protocols, including protocols for routing and TCP/IP.

18. Starting in 1997, I worked on a project to integrate the streaming media capabilities of the Internet together with the interactivity of the web. I developed a project called the Interactive Multimedia Jukebox (IMJ). Users would

visit a web page and select content to view. The content would then be scheduled on one of a number of channels, including delivery to students in Georgia Tech dorms delivered via the campus cable plant. The content of each channel was delivered using multicast communication.

19. In the IMJ, the number of channels varied depending on the capabilities of the server including the available bandwidth of its connection to the Internet. If one of the channels was idle, the requesting user would be able to watch their selection immediately. If all channels were streaming previously selected content, the user's selection would be queued on the channel with the shortest wait time. In the meantime, the user would see what content was currently playing on other channels, and because of the use of multicast, would be able to join one of the existing channels and watch the content at the point it was currently being transmitted.

20. The IMJ service combined the interactivity of the web with the streaming capabilities of the Internet to create a jukebox-like service. It supported true Video-on-Demand when capacity allowed, but scaled to any number of users based on queuing requested programs. As part of the project, we obtained permission from Turner Broadcasting to transmit cartoons and other short-subject content. We also connected the IMJ into the Georgia Tech campus cable television network so that students in their dorms could use the web to request content and

then view that content on one of the campus's public access channels.

21. More recently, I have also studied issues concerning how users choose content, especially when considering the price of that content. My research has examined how dynamic content pricing can be used to control system load. By raising prices when systems start to become overloaded (i.e., when all available resources are fully utilized) and reducing prices when system capacity is readily available, users' capacity to pay as well as their willingness can be used as factors in stabilizing the response time of a system. This capability is particularly useful in systems where content is downloaded or streamed on-demand to users.

22. As a parallel research theme, starting in 1997, I began researching issues related to wireless devices and sensors. In particular, I was interested in showing how to provide greater communication capability to "lightweight devices," i.e., small form-factor, resource-constrained (e.g., CPU, memory, networking, and power) devices. Starting in 1998, I published several papers on my work to develop a flexible, lightweight, battery-aware network protocol stack.

23. The lightweight protocols we envisioned were similar in nature to protocols like Bluetooth, Universal Plug and Play (UPnP) and Digital Living Network Alliance (DLNA). From this initial work, I have made wireless networking-including ad hoc, mesh networks and wireless devices-one of the major themes of my research. My work in wireless network spans the protocol

stack from applications through to the encoding and exchange of data at the data link and physical layers.

24. At the application layer, even before the large-scale “app stores” were available, my research looked at building, installing, and using apps for a variety of purposes, from network monitoring to support for traditional computer-based applications (e.g., content retrieval) to new applications enabled by ubiquitous, mobile devices. For example, my research has looked at developing applications for virally exchanging and tracking “coupons” through “opportunistic contact” (i.e., communication with other devices coming into communication range with a user). In many of the courses I have taught there is a project component. Through these projects I have supervised numerous efforts to develop new “apps” for download and use across a variety of mobile platforms.

25. Toward the middle of the protocol stack, my research also looked to build wireless infrastructure support to enable communication among a set of mobile devices unaided by any other kind of network infrastructure. These kinds of networks are useful either in challenged network environments (e.g., when a natural disaster has destroyed existing infrastructure) or when suitable support for network communication never existed. The deployment of such networks (or even the use of traditional network support) are critical to support services like disaster relief, catastrophic event coordination, and emergency services deployment.

26. Yet another theme is monitoring wireless networks, in particular different variants of IEEE 802.11 compliant networks, to (1) understand the operation of the various protocols used in real-world deployments, (2) use these measurements to characterize use of the networks and identify protocol limitations and weaknesses, and (3) propose and evaluate solutions to these problems. I have successfully used monitoring techniques to study wireless data link layer protocol operation and to improve performance by enhancing the operation of such protocols. For wireless protocols, this research includes functions like network acquisition and channel bonding.

27. Protecting networks, including their operation and content, has been an underlying theme of my research almost since the beginning of my research career. Starting in 2000, I have been involved in several projects that specifically address security, network protection, and firewalls. After significant background work, a team on which I was a member successfully submitted a \$4.3M grant proposal to the Army Research Office (ARO) at the Department of Defense to propose and develop a high-speed intrusion detection system. Key aspects of the system included associating streams of packets and analyzing them for viruses and other malware. Once the grant was awarded, we spent several years developing and meeting the milestones of the project. A number of my students worked on related projects and published papers on topics ranging from intrusion detection to

developing advanced techniques to be incorporated into firewalls. I have also used firewalls, including their associated malware detection features, in developing techniques for the classroom to ensure that students are not distracted by online content.

28. Recent work ties some of the various threads of my past research together. I have investigated content delivery in online social networks and proposed reputation management systems in large-scale social networks and marketplaces. On the content delivery side, I have looked at issues of caching and cache placement, especially when content being shared and the cache has geographical relevance. We were able to show that effective caching strategies can greatly improve performance and reduce deployment costs. Our work on reputation systems showed that reputations have economic value, and as such, creates a motivation to manipulate reputations. In response, we developed a variety of solutions to protect the integrity of reputations in online social networks. The techniques we developed for content delivery and reputation management were particularly relevant in peer-to-peer communication and recommendations for downloadable “apps.”

29. As an important component of my research program, I have been involved in the development of academic research into available technology in the market place. One aspect of this work is my involvement in the Internet

Engineering Task Force (IETF). The IETF is a large and open international community of network designers, operators, vendors, and researchers concerned with the evolution of the Internet architecture and the smooth operation of the Internet. I have been involved in various IETF groups including many content delivery-related working groups like the Audio Video Transport (AVT) group, the MBone Deployment (MBONED) group, Source Specific Multicast (SSM) group, the Inter-Domain Multicast Routing (IDMR) group, the Reliable Multicast Transport (RMT) group, the Protocol Independent Multicast (PIM) group, etc. I have also served as a member of the Multicast Directorate (MADDOGS), which oversaw the standardization of all things related to multicast in the IETF. Finally, I was the Chair of the Internet2 Multicast Working Group for seven years.

30. As another important component of my research, I have been involved in the development of academic research into available technology in mobile connections, networks, and protocols in dynamic environments, including moving vehicles. See, e.g.:

- K. Almeroth, K. Obraczka and D. De Lucia, “*A Lightweight Protocol for Interconnecting Heterogeneous Devices in Dynamic Environments*,” IEEE International Conference on Multimedia Computing and Systems (ICMCS), Florence, ITALY, June 1999.

- K. Harras, K. Almeroth and E. Belding, *Delay Tolerant Mobile Networks (DTMNs): Controlled Flooding in Sparse Mobile Networks*,” IFIP Networking Conference, Waterloo, Ontario, CANADA, May 2005.
- C. Holman, K. Harras, and K. Almeroth, “*A Proactive Data Bundling System for Intermittent Mobile Connections*,” IEEE International Conference on Sensor and Ad Hoc Communications and Networks (SECON), Reston, Virginia, USA, September 2006.
- R. Chertov, D. Havey and K. Almeroth, “*MSET: A Mobility Satellite Emulation Testbed*,” IEEE Infocom, San Diego, California, USA, March 2010.

31. My involvement in the research community extends to leadership positions for several academic journals and conferences. I am the co-chair of the Steering Committee for the ACM Network and System Support for Digital Audio and Video (NOSSDAV) workshop and on the Steering Committees for the International Conference on Network Protocols (ICNP), ACM Sigcomm Workshop on Challenged Networks (CHANTS), and IEEE Global Internet (GI) Symposium. I have served or am serving on the Editorial Boards of IEEE/ACM Transactions on Networking, IEEE Transactions on Mobile Computing, IEEE Network, ACM Computers in Entertainment, AACE Journal of Interactive

Learning Research (JILR), and ACM Computer Communications Review. I have co-chaired a number of conferences and workshops, including the IEEE International Conference on Network Protocols (ICNP), IEEE Conference on Sensor, Mesh and Ad Hoc Communications and Networks (SECON), International Conference on Communication Systems and Networks (COMSNETS), IFIP/IEEE International Conference on Management of Multimedia Networks and Services (MMNS), the International Workshop On Wireless Network Measurement (WiNMee), ACM Sigcomm Workshop on Challenged Networks (CHANTS), the Network Group Communication (NGC) workshop, and the Global Internet Symposium, and I have served on the program committees for numerous conferences.

32. Furthermore, in the courses I taught at UCSB, a significant portion of my curriculum covered aspects of the Internet and network communication, including the physical and data link layers of the Open System Interconnect (OSI) protocol stack, and standardized protocols for communicating across a variety of physical media such as cable systems, telephone lines, wireless, and high-speed Local Area Networks (LANs). The courses I have taught also cover most major topics in Internet communication, including data communication, multimedia encoding, and mobile application design. My research and courses have covered a range of physical infrastructures for delivering content over networks, including

cable, Integrated Services Digital Network (ISDN), Ethernet, Asynchronous Transfer Mode (ATM), fiber, and Digital Subscriber Line (DSL). For a complete list of courses I have taught, see my curriculum vitae (CV) (Ex. 1004).

33. In addition, I co-founded a technology company called Santa Barbara Labs that was working under a sub-contract from the U.S. Air Force to develop very accurate emulation systems for the military's next generation internetwork. Santa Barbara Labs' focus was in developing an emulation platform to test the performance characteristics of the network architecture in the variety of environments in which it was expected to operate, and, in particular, for network services including IPv6, multicast, Quality of Service (QoS), satellite-based communication, and security. Applications for this emulation program included communication of a variety of multimedia-based services, including video conferencing and video-on-demand.

34. In addition to having co-founded a technology company myself, I have worked for, consulted with, and collaborated with companies for nearly 30 years. These companies range from well-established companies to start-ups and include IBM, Hitachi Telecom, Turner Broadcasting System (TBS), Bell South, Digital Fountain, RealNetworks, Intel Research, Cisco Systems, and Lockheed Martin.

35. Through my graduate education, leadership with CITS, involvement

in TMP, role in the development of the Internet infrastructure, and consulting with ISPs, I have gained a strong understanding in the role of the Internet in our society and the challenges of deploying large-scale production networking infrastructure. CITS, since its inception, has looked at the role of the Internet in society, including how the evolution of technology have created communication opportunities and challenges, including, for example through disruptive technologies like P2P. TMP looks to focus on non-purely technical issues, including, for example, state-of-the-art business methods, strategies for successful technology commercialization, new venture creation, and best practices for fostering innovation. Through my industry collaborations and Internet work, I have developed significant experience in the challenges of deploying, monitoring, managing, and scaling communication infrastructure to support evolving Internet services like streaming media, conferencing, content exchange, social networking, and e-commerce.

36. I am a Member of the Association of Computing Machinery (ACM) and a Fellow of the Institute of Electrical and Electronics Engineers (IEEE).

III. MATERIALS CONSIDERED

37. In forming my opinions, I have reviewed the following documents:

Exhibit	Description
Ex. 1001	U.S. Patent No. 11,396,244 to Penilla et al. (“244 patent”)

Ex. 1002	Certified Prosecution File History for U.S. Patent No. 11,396,244
Ex. 1003	U.S. Provisional Application No. 61/745,729
Ex. 1006	U.S. Patent Application Pub. No. 2011/0137520 A1 to Jay Rector et al. (“ <i>Rector</i> ”)
Ex. 1007	U.S. Patent Application Pub. No. 2014/0129053 A1 to Robert Bruce Kleve et al. (“ <i>Kleve</i> ”)
Ex. 1008	U.S. Patent No. 6,505,780 B1 to Amr Yassin et al. (“ <i>Yassin</i> ”)
Ex. 1009	U.S. Patent Application Pub. No. 2006/0136106 A1 to Russell Patenaude et al. (“ <i>Patenaude</i> ”)
Ex. 1010	U.S. Patent Application Pub. No. 2011/0035031 A1 to Jens Faenger et al. (“ <i>Faenger</i> ”)
Ex. 1013	U.S. Provisional Application No. 61/478,436
Ex. 1014	As-filed specification of U.S. Application No. 13/452,881
Ex. 1015	As-filed specification of U.S. Application No. 13/842,158

IV. LEGAL STANDARDS

38. In forming my opinions and considering the subject matter of the ’244 patent and its claims in light of the prior art, I am relying on certain legal principles that counsel in this case explained to me. My understanding of these concepts is summarized below.

39. I understand that the claims define the invention. I also understand that an unpatentability analysis is a two-step process. First, the claims of the patent are construed to determine their meaning and scope. Second, after the claims are

construed, the content of the prior art is compared to the construed claims.

40. I understand that a claimed invention is only patentable when it is new, useful, and non-obvious in light of the “prior art.” That is, the invention, as defined by the claims of the patent, must not be anticipated or rendered obvious by the prior art.

A. Claim Construction

41. I understand that the United States Patent and Trademark Office interprets claim terms in an *inter-partes* review proceeding under the same claim construction standard that is used in a United States federal court. I understand that under this standard, the meaning of claim terms is considered from the viewpoint of one of ordinary skill in the art at the time of the alleged invention.

42. I understand that claim terms are generally given their ordinary and customary meaning as understood by one of ordinary skill in the art in light of the specification and the prosecution history pertaining to the patent. I understand, however, that claim terms are generally not limited by the embodiments described in the specification.

43. I understand that in addition to the claims, specification, and prosecution history, other evidence may be considered to ascertain the meaning of claim terms, including textbooks, encyclopedias, articles, and dictionaries. I have been informed that this other evidence is often less significant and less reliable

than the claims, specification, and prosecution history.

B. Anticipation Under 35 U.S.C. § 102

44. I understand that under 35 U.S.C. § 102, a patent claim is invalid if its subject matter was patented or described in a printed publication before the effective filing date of the claimed invention. I have been told that this is referred to as invalidity by anticipation. I have been told that a patent claim is anticipated under § 102 if a single prior art reference discloses all limitations of the claimed invention.

C. Obviousness Under 35 U.S.C. § 103

45. I understand that a patent claim is invalid as obvious if the claimed invention would have been obvious to a person of ordinary skill in the art (“POSA”) at the time the claimed invention was made. This means that even if all of the elements of the claim cannot be found in a single prior art reference that would anticipate the claim, a person of ordinary skill in the field who knew about all the prior art would have come up with the claimed invention. I understand that in an obviousness determination, the person of ordinary skill in the art is presumed to have knowledge of all material prior art. I understand that whether a claim is obvious is based upon the determination of several factual issues.

46. I understand that obviousness is a determination of law based on underlying determinations of fact. I understand that these factual determinations

include the scope and content of the prior art, the level of ordinary skill in the art, the differences between the claimed invention and the prior art, and secondary considerations of non-obviousness.

47. In considering obviousness, I understand that one must determine the scope and content of the prior art. I understand that, in order to be considered as prior art to a patent being considered, a prior art reference must be reasonably related to the claimed invention of that patent. A reference is reasonably related if it is in the same field as the claimed invention or is from another field to which a person of ordinary skill in the art would look to solve a known problem.

48. I understand that one must determine what differences, if any, existed between the claimed invention and the prior art.

49. I understand that a patent claim composed of several elements is not proved obvious merely by demonstrating that each of its elements was independently known in the prior art. In evaluating whether such a claim would have been obvious, one may consider whether a reason has been identified that would have prompted a person of ordinary skill in the art to combine the elements or concepts from the prior art in the same way as in the claimed invention. There is no single way to define the line between true inventiveness on the one hand (which is patentable) and the application of common sense and ordinary skill to solve a problem on the other hand (which is not patentable). For example, market forces or

other design incentives may be what precipitated a change, rather than true inventiveness.

50. I understand that whether a prior art reference renders a patent claim unpatentable as obvious is determined from the perspective of a person of ordinary skill in the art at the time of the alleged invention. I have been told that there is no requirement that the prior art contain an express suggestion to combine known elements to achieve the claimed invention, but a suggestion to combine known elements to achieve the claimed invention may come from the prior art, as filtered through the knowledge of one skilled in the art. In addition, I have been told that the inferences and creative steps a person of ordinary skill in the art would employ are also relevant to the determination of obviousness.

51. I understand that there is no rigid rule that a reference or combination of references must contain a “teaching, suggestion, or motivation” to combine references. But I also understand that the “teaching, suggestion, or motivation” test can be a useful guide in establishing a rationale for combining elements of the prior art. I have been told that this test poses the question as to whether there is an express or implied teaching, suggestion, or motivation to combine prior art elements in a way that realizes the claimed invention, and that it seeks to counter impermissible hindsight analysis.

52. I understand that one may consider, e.g., whether (1) the change was

merely the predictable result of using prior art elements according to their known functions, or whether it was the result of true inventiveness; (2) there is some teaching or suggestion in the prior art to make the modification or combination of elements claimed in the patent; (3) the claimed innovation applies a known technique that had been used to improve a similar device or method in a similar way; (4) the claimed invention would have been obvious to try, meaning that the claimed innovation was one of a relatively small number of possible approaches to the problem with a reasonable expectation of success by those skilled in the art; (5) the invention merely substituted one known element for another known element in order to obtain predictable results; (6) the invention merely applies a known technique to a known device, method, or product to yield predictable results; or (7) known work in the field may have prompted variations of use of the same inventions in the same or different fields due to market forces or design incentives that would have been predictable to a person of ordinary skill in the art.

53. I understand that any assertion of secondary considerations of non-obviousness must be accompanied by a nexus between the merits of the invention and the evidence offered.

D. Priority Under 35 U.S.C. § 120

54. I understand that the “priority date” or “effective filing date” of a patent is the date on which it is filed, or the date on which an earlier-filed U.S. or

international patent application was filed if the patentee claims the benefit of priority to that earlier-filed application.

55. I understand that in the patent application process, the applicant may keep the originally filed claims, or change the claims between the time the patent application is first filed and the time a patent is issued. An applicant may amend the claims or add new claims. These changes may narrow or broaden the scope of the claims. I understand that a patent application is entitled to the benefit of the filing date of an earlier-filed application only if the disclosure of the earlier application provides support for the claims of the later application as required by the “written description” requirement of 35 U.S.C. § 112. I further understand that for a patent application to have an adequate written description of the invention, it must show the inventor was in possession of the invention at the time the patent application was filed.

56. When determining whether a specification of a patent application contains adequate written description of the claimed invention, I understand that one must make an objective inquiry into the four corners of the specification from the perspective of a POSA. Further, I understand that the standard for written description is stricter than the standard for determining whether or not a patent claim would have been obvious based on the prior art.

57. In particular, the question for purposes of written description is not

merely whether the claimed invention is an obvious variant of what the specification discloses. Instead, the application itself must describe the invention, and do so in sufficient detail that a POSA can clearly conclude that the inventor invented the claimed invention as of the date when the application was filed.

58. Similarly, I understand the issue of written description is separate from the question of “enablement” (i.e., whether a specification allows a POSA to practice the claimed invention without undue experimentation). A specification may adequately enable a claimed invention, yet fail to provide written description support.

59. Finally, I understand that the standard for whether or not a disclosure is sufficient to provide written description support for a claim is different from the standard for whether a disclosure anticipates a claim. To support a claim, the description must be sufficient to convey to a POSA that the inventors were in possession of the full scope of the claimed subject matter. By contrast, a description anticipates a claim if it discloses even a single species within the scope of the claim. Thus, in the case of “genus” claims covering two or more different species, I understand that there can be situations in which a given disclosure is sufficient to anticipate the claim even though that same disclosure is not adequate to support the claim and entitle the inventors to an earlier priority date.

60. I understand that in order to claim priority to an application through a

chain of applications, every single application in the chain (going back to the particular application on which the inventors want to rely) needs to support the claim as a matter of written description. In other words, each application in the chain must allow a person of ordinary skill in the art to discern that the inventors were in possession of the claimed invention at the time of the application. It is not sufficient under this standard for the disclosure in the specification to render the claimed invention obvious.

61. As detailed herein, I determined that certain priority dates apply for certain claims. However, it is my opinion that my ultimate conclusions of invalidity herein would not change even if all of the '244 patent claims could be found to be entitled to the claimed priority date of December 24, 2012 (corresponding to Provisional Application 61/745,729). For example, the prior art relied upon in this IPR is prior art regardless of whether the priority date is, for example, March 15, 2013 or December 24, 2012. And further, the level of skill of a POSA would remain substantially the same regardless of the priority date being, for example, March 15, 2013 or December 24, 2012.

V. THE '244 PATENT

A. Overview of the '244 Patent

62. The application that led to the '244 patent was filed on February 11, 2020. The specification of the '244 patent is similar to that of Application No.

13/842,158, which was filed March 15, 2013.

63. The '244 patent attempts to claim methods of customizing vehicles based on user profiles. It describes methods for transferring settings associated with user profiles to vehicles using cloud services. Ex. 1001, Title, Abstract. The patent attempts to exploit the connectivity offered by cloud systems to provide “automatic settings and synchronization when the user enters the vehicle” *Id.*, 13:2-9. It explains that vehicles “communicate wirelessly with Internet services,” which provides access to “settings, configurations, applications, and other customization defined by the user.” *Id.*, 7:9-17. According to the patent, cloud systems enable vehicle users to access the Internet to provide services “in a more effective manner.” *Id.*, 8:59-67. The patent asserts ownership over such basic and commonplace features as transferring custom setting configurations between vehicles, alleging that its purported invention offers “customization” that “will be facilitated via a website.” *Id.*, 7:38-58.

64. The patent illustrates an example of its allegedly inventive method of user interaction with a cloud-based vehicle login system in Fig. 1 (below). *Id.*, 15:62-16:12. The patent states “[t]he user supplies login credentials to a vehicle login interface which are sent to the remote distributed or centralized user login authentication system or onboard vehicle authentication system,” and if authenticated, the vehicle “has vehicle settings applied to it and the user is allowed

to operate the vehicle.” *Id.* If not, “the user is presented with a failed access notification on the login interface.” *Id.*

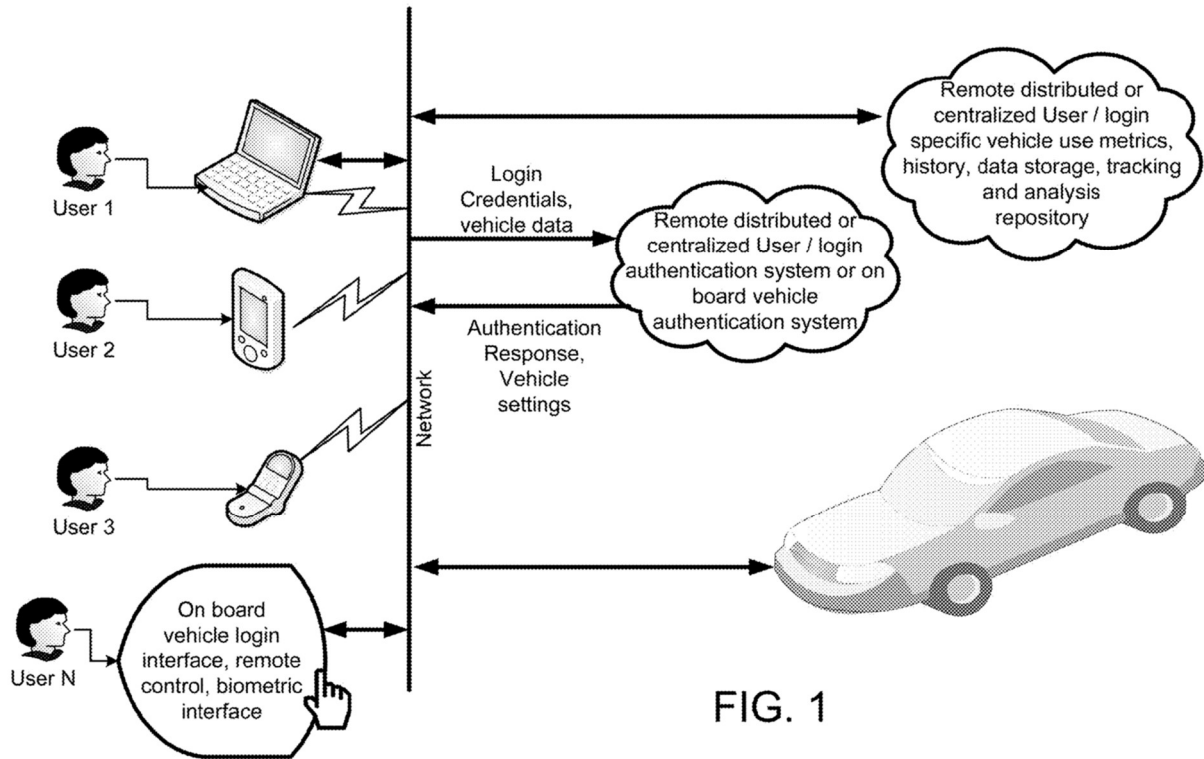


FIG. 1

Fig. 1 of the '244 Patent

65. One of the consequences of Internet connectivity observed by the patent is that specific functions of vehicles can be monitored or restricted, which can be done for “safety considerations while driving.” *Id.*, 9:66-10:14. To this end, the patent claims that at least some of the settings associated with a user profile are “restricted for use on the vehicle.” As an example of “applying” settings restrictions, “if a particular application requires entry of text, navigation of controls, or other activities that would distract the driver during operation of the

vehicle, such [actions] . . . can be temporarily disabled.” *Id.*, 12:2-9.

66. Also, in describing Fig. 4, which Applicant relied on to introduce the “restriction” feature to the claims (*infra*, V.B), the patent explains that “location based settings allows an administrator to draw out a map of the area the user login CHILD is allowed to travel within while logged into the vehicle.” Ex. 1001, 16:44-60. Other types of restricted settings include “fuel use,” “speed restrictions,” “time specific driving,” and “purchase settings.” *Id.*, Fig. 4 (below).

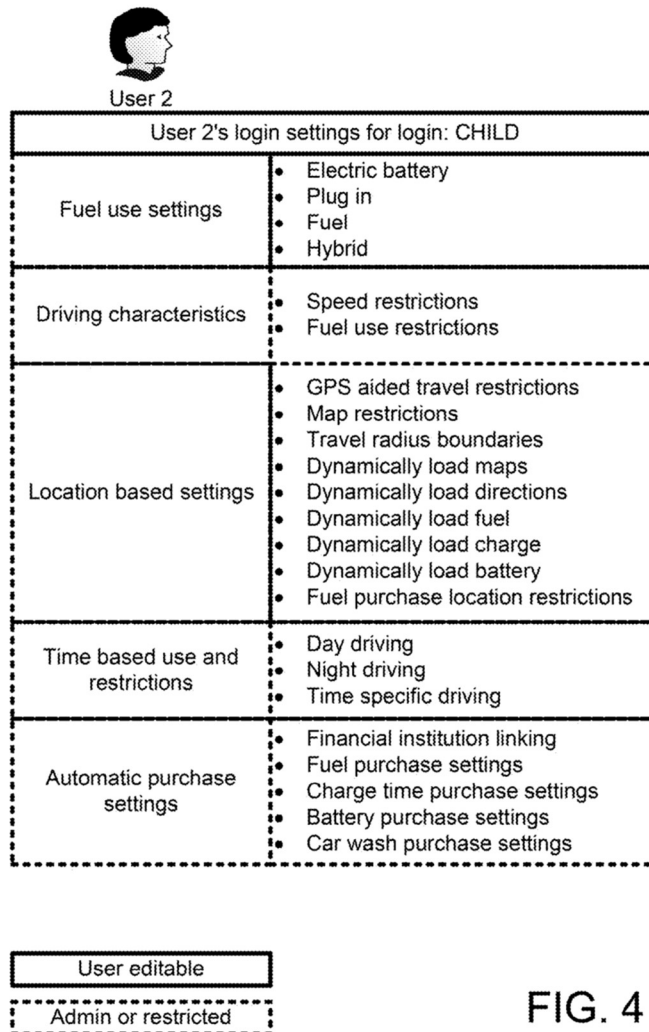


FIG. 4

Fig. 4 of the '244 Patent

67. On the other hand, as shown in Fig. 5 (below), other settings, like “comfort” settings including “climate, seats positions, seat heater/cooler,” may be “configurable by the user.” *Id.*, 16:61-17:7. Still, these types of settings can also be restricted by an administrator. *Id.*, 14:5-26 (“Login settings that can be set and remotely administered include . . . entertainment system settings (radio memory

settings, internet access or restriction, streaming services settings) . . .”).

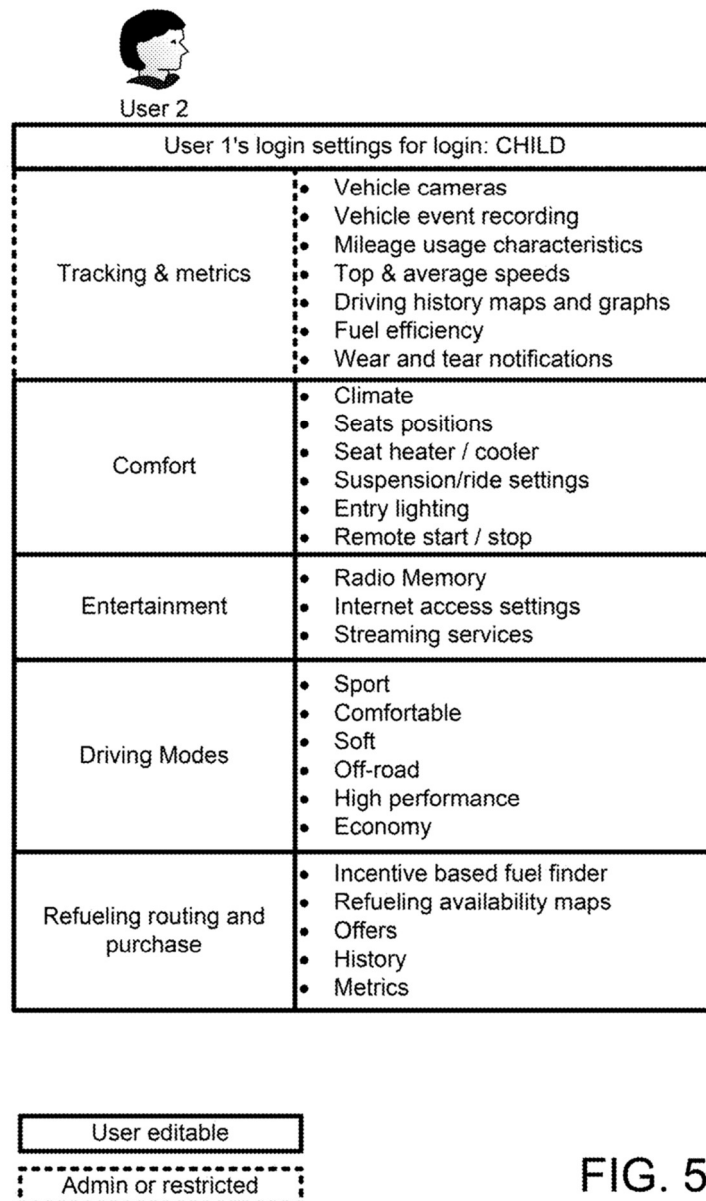


FIG. 5

Fig. 5 of the '244 Patent (note restricted settings in dashed lines)

68. The patent also claims that a “learning engine” learns the user’s

preferences and generates a “recommended setting.”¹ The specification does not describe a “learning engine,” and indeed, mentions the term only once. *Id.*, 7:22-27; *see also id.*, 31:41-45 (admitting well-known elements are not described in detail). Regarding “learning,” the specification states that “Bob’s profile can include specific settings, preferences, use history, and learned settings from earlier uses of one or more vehicles.” *Id.*, 17:21-23, Fig. 6 (below).

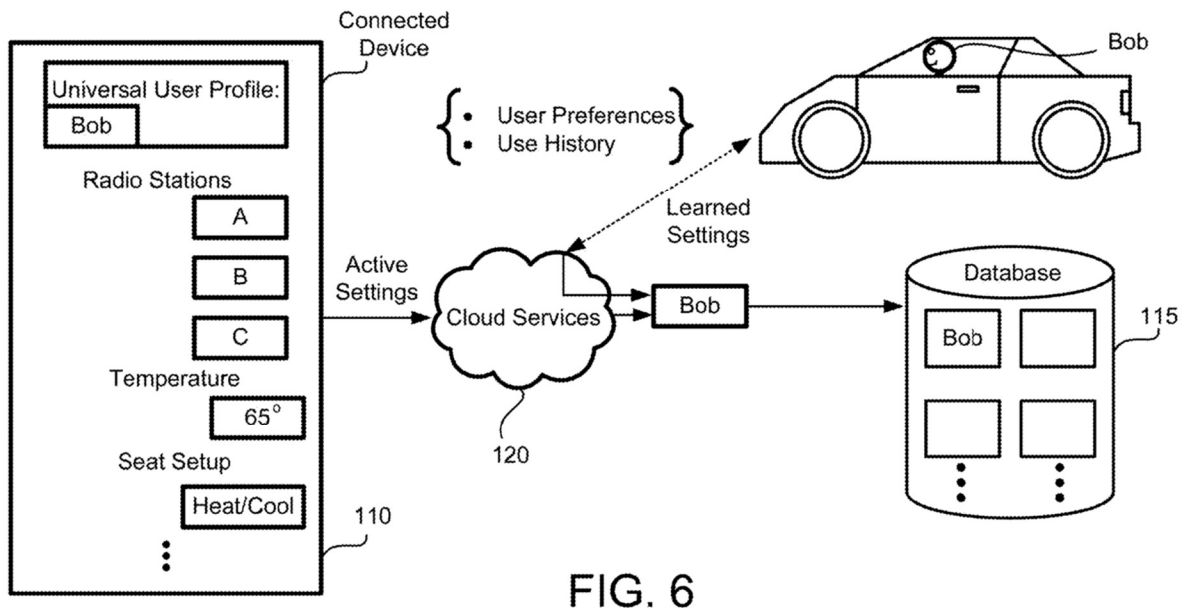


Fig. 6 of the '244 Patent

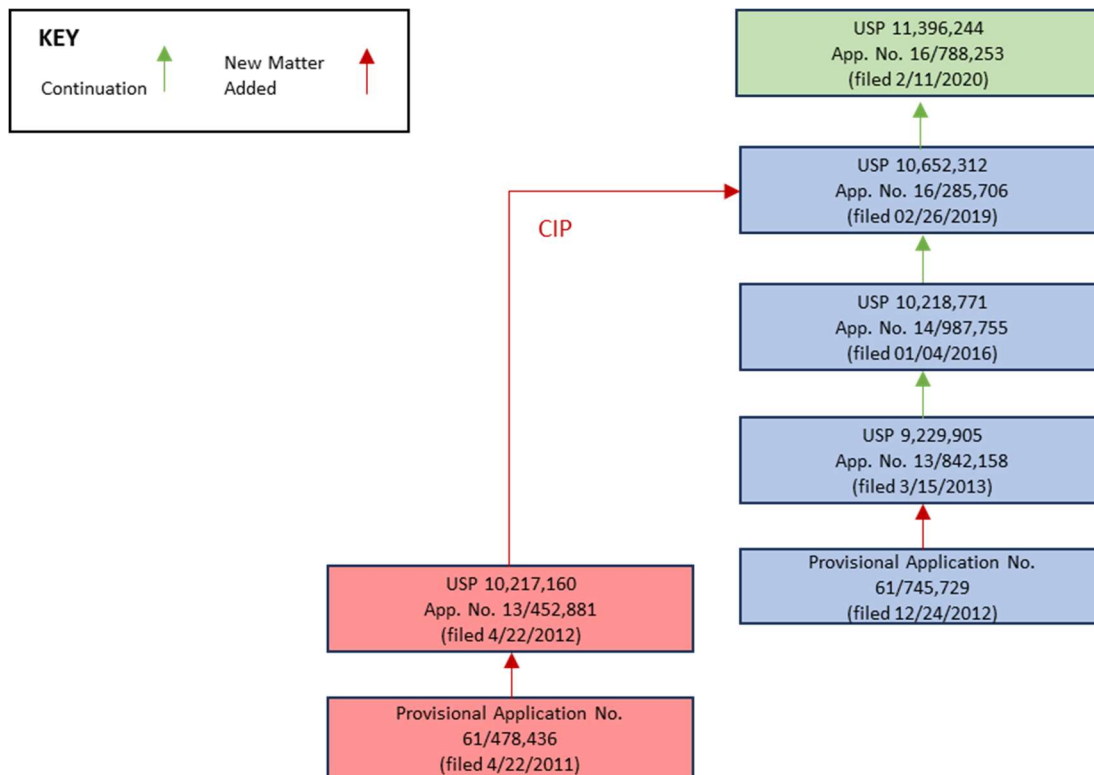
69. But prior art—which was not before the Patent Office during prosecution—discloses the same claimed settings restrictions and learning engine.

¹ The issued '244 patent entirely omits claims 21 and 22, which recite a “*learning engine*.” The COC attempts to reintroduce claims 21 and 22. A “learning engine” is also recited in claims 5-8.

As explained herein, it was commonplace and well-known to a POSA before the '244 patent to perform such claimed processes of restricting particular settings and using a learning engine to generate recommended settings, among other claimed features.

B. Priority Analysis of the '244 Patent

70. The '244 patent is part of a larger family of patents and patent applications, as summarized below:



71. As indicated in the graphic above, the application for the '244 patent was filed on February 11, 2020, and references two chains of applications, one dating back to U.S. Provisional Application No. 61/478,436 filed April 22, 2011,

and one dating back to U.S. Provisional Application No. 61/745,729 filed December 24, 2012. I will refer to Applications 61/478,436 and 13/452,881 as the “first chain” of applications, depicted in red, above.

72. The application for the '244 patent describes itself as a “continuation” of Application No. 16/285,706 filed February 26, 2019, which in turn is a “continuation-in-part” of Application No. 13/452,881 filed April 22, 2012. I understand that a continuation-in-part application typically repeats all or a substantial part of a prior application’s disclosure and adds new subject matter not disclosed in the parent application. Only claims that are adequately disclosed in the parent application receive the benefit of the parent application’s filing date, while any claim that recites a feature first introduced in the continuation-in-part application and that was not adequately disclosed in the parent application is not entitled to the filing date of the parent application. I understand that a “continuation” of a patent application typically discloses the same subject matter as the application that it “continues” from.

73. In reality, however, there are numerous differences between the application for the '244 patent (filed February 11, 2020) and the first chain of applications (Application No. 13/452,881 filed April 22, 2012, and Provisional Application No. 61/478,436 filed April 22, 2011). As can be plainly seen from an inspection of these applications, there is simply no disclosure of user “profiles” or

vehicle “settings.” *See* Ex. 1013 (Provisional Application No. 61/478,436) and Ex. 1014 (Application No. 13/452,881). Instead, those applications are directed to “electric vehicle range extending charge systems, distributed networks or charge kiosks, and charge locating mobile apps,” and “processing charge availability and route paths for obtaining charge for electric vehicles,” as their titles suggest. *Id.* The applications make passing reference to providing dynamic information to a user of “volt bars” (which the applications explain are just another word for “batteries,” Ex. 1013, ¶ [0006]; Ex. 1014, ¶ [0008]), such as “suggested travel speeds to conserve energy, maps for routing, better dynamic traffic information based on real-time information, and other *settings*.”² Ex. 1013, ¶ [00161]; Ex. 1014, ¶ [00209]. However, the applications do not explain how such “settings” have any relation to settings of a profile associated with a user account and that are used to customize the vehicle for the user, much less how they are “restricted” for use on the vehicle. Thus, the subject matter of the challenged claims of the ’244 patent (claims 1, 2, 4-22) is not supported by the first chain of applications.

74. The applications of the first chain also lack disclosure of certain other features claimed in the ’244 patent, including a server receiving inputs made to systems of the vehicle during use while the vehicle is associated with the profile of

² All emphasis added unless otherwise indicated.

the user account and determining based on the inputs made to systems of the vehicle that at least one of the plurality of settings of the profile is to be updated (claim 4); and a “learning engine” (claims 5-8, 21-22).

75. Claim 4 of the '244 patent depends from claim 1 and recites “receiving, by the server, communication from the vehicle regarding inputs made to systems of the vehicle during use of the vehicle while the vehicle is associated with the profile of the user account; determining by the server, based on the inputs made to systems of the vehicle that at least one of the plurality of settings of the profile is to be updated.” Ex. 1001, 33:41-48.

76. Claim 5 of the '244 patent depends from claim 4 and additionally recites “processing by a learning engine that uses the inputs made to the systems of the vehicle to find patterns in use of the systems of the vehicle while the profile was used with the vehicle.” *Id.*, 33:49-53.

77. Claims 6-7 of the '244 patent depend from claim 5, and thus, include all the features of claim 5. *Id.*, 33:54-67.

78. Claim 8 of the '244 patent depends from claim 1 and recites “accessing, by the server, a plurality of profiles of different users stored in the storage accessible to the cloud services system; detecting, by the server, similarities in patterns for inputs made to systems of vehicles associated with the profiles of different users; using, by the server, a learning engine to produce a

recommended setting that is sent to the user account.” *Id.*, 34:1-9.

79. Claim 21, as proposed to be added by the requested certificate of correction, is an independent claim described by Patent Owner as “parallel[ing] original claim 17 with added limitations related to a learning embodiment.” Ex. 1002, 207. Claim 21, assuming the COC is issued, would recite, in part, “ wherein a learning engine executed by a server of at least one data center is configured to process inputs made to one or more settings of the vehicle by the user to generate a recommended setting to add to the plurality of settings of the profile; wherein accepted recommendations are saved to the profile and added to the cloud storage that is accessible to said one or more servers.” *Id.*, 627.

80. Claim 22, as proposed to be added by the requested COC, depends from claim 21 and thus includes all the features of claim 21. *Id.*

81. In my opinion, the subject matter of these claims (4-8 and 21-22) is not supported by the first chain of applications. For example, Provisional Application 61/478,436’s disclosure of “history” relates to “history information of my purchases” and does not support the “learning engine” subject matter recited in claims 5-8 and 21-22, or the updating of profiles based on inputs made to systems of the vehicle recited in claim 4. Ex. 1013, ¶¶ [0059], [00158]-[00163], Fig. 36. The claimed “learning engine” features relate to “find[ing] patterns in use of the systems of the vehicle while the profile was used with the vehicle,” based on

“inputs.” *See, e.g.*, Ex. 1001, 33:49-53 (claim 5 of the ’244 patent). The claimed updating of the profile in claim 4 is also based on “inputs made to systems of the vehicle during use of the vehicle while the vehicle is associated with the profile of the user account.” *Id.*, 33:41-48 (claim 4 of the ’244 patent). Application 61/478,436 does not and cannot explain how “history information of my purchases” is related to such inputs made to systems of the vehicle in the manner recited in claim 4, or how any “learning” could be done based upon them in the manner recited in claims 5-8 and 21-22. *See* Ex. 1013, ¶ [00159]. The same goes for the corresponding disclosure in Application 13/452,881. *See* Ex. 1014, ¶ [00206].

82. Thus, a POSA studying the disclosures in the first chain of applications would not have understood the inventors to have invented a system or method comprising “processing, by the server, at least part of the user information to verify the user for accessing the profile associated with the user account, the profile having a plurality of settings of the user for the vehicle and at least one of said plurality of settings being restricted for use on the vehicle, wherein at least part of the plurality of settings for the profile being stored on storage accessible to the cloud services system,” as recited in claim 1, or “processing, by one of the servers, at least part of the user information to verify the access for the user, the profile having a plurality of settings of the user for the vehicle and at least one of

said plurality of settings being restricted for use on the vehicle, wherein at least part of the plurality of settings of the profile being stored on storage accessible to said one or more servers,” as recited in claim 17, or “processing, by one of the servers, at least part of the user information to verify the access for the user, the profile having a plurality of settings of the user for the vehicle, wherein at least part of the plurality of settings of the profile being stored on storage accessible to said one or more servers,” as recited in claim 21. Also, a POSA studying the disclosures in the first chain of applications would not have understood the inventors to have invented a system or method comprising “receiving, by the server, communication from the vehicle regarding inputs made to systems of the vehicle during use of the vehicle while the vehicle is associated with the profile of the user account; determining, by the server, based on the inputs made to systems of the vehicle that at least one of the plurality of settings of the profile is to be updated,” as recited in claim 4, or the “learning engine” subject matter recited in claims 5-8 and 21-22.

83. Furthermore, some of the challenged claims are entitled to, at best, priority to Provisional Application 61/745,729 filed December 24, 2012 (Ex. 1003), while some of the challenged claims are only entitled to priority to Application 13/842,158 filed March 15, 2013. For example, claims 5-8, 21, and 22 reciting a “learning engine,” among other things, are entitled to a priority date of

no earlier than March 15, 2013, because the “learning engine” subject matter first appeared in Application 13/842,158. *See generally*, Ex. 1015. Provisional Application 61/745,729’s disclosure of “history” relates to “history of rout[e]s taken,” Ex. 1003, ¶ [0026], or battery “charge history,” *id.*, ¶ [0059], and does not support the “learning engine” subject matter. Claim 4, reciting a server determining settings to update based on inputs made to systems of the vehicle during use, while the vehicle is associated with the profile of the user account, is entitled to a priority date of no earlier than March 15, 2013, the date this subject matter first appeared (also in Application 13/842,158). The remaining challenged claims are entitled to a priority date of no earlier than December 24, 2012. Regardless, Provisional Application 61/745,729 was not filed early enough to antedate any of the prior art in the petition for IPR of the ’244 patent.

C. Prosecution History of the ’244 Patent

84. I have reviewed the prosecution history of the application that led to the ’244 patent (Ex. 1002). I am not aware of anything in the prosecution history that changes my opinions expressed in this declaration.

85. To the extent Patent Owner relies on the prosecution history for some point relevant to my opinions, I reserve the right to respond in a future declaration.

D. Person of Ordinary Skill in the Art

86. I am informed that patentability must be analyzed from the

perspective of POSA in the same field as the '244 patent at the time of the invention. As previously discussed, the relevant time of invention is the patent's priority date, which is no earlier than March 15, 2013 for some claims and December 24, 2012 for some claims.

87. I am also informed that several factors are considered in assessing the level of ordinary skill in the art, including (1) the types of problems encountered in the art; (2) the prior art solutions to those problems; (3) the rapidity with which innovations are made; (4) the sophistication of the technology; and (5) the education level of active workers in the field.

88. The '244 patent claims the benefit of U.S. Provisional Application No. 61/478,436 filed April 22, 2011, U.S. Provisional Application No. 61/745,729 filed December 24, 2012.

89. Regardless of whether the priority date(s) for the '244 claims are March 15, 2013, December 24, 2012, or April 22, 2011 (or any date in between), in my opinion, a person of ordinary skill in the art pertinent to the '244 patent would have had at least a four-year undergraduate degree in electrical engineering, computer science, or a closely related field, with at least two to four years of experience in the field of cloud services for settings customization. Additional education (such as a Master's degree in electrical engineering, computer science, or equivalent) could substitute for professional experience and vice-versa. A POSA

would also be able to understand and apply the prior art discussed herein.

90. Although I surpass this definition of one of ordinary skill in the art now and at the effective filing date of the '244 patent, my analysis regarding the '244 patent has been based on the perspective of one ordinary skill in the art as of the effective filing date of the '244 patent.

91. I am also familiar with the knowledge of the person of ordinary skill in the art as of the effective filing date of the '244 patent. I am able to opine on how the person of ordinary skill in the art would have understood the disclosure and claims of the '244 patent, the disclosures of the prior art, the motivation to combine the prior art, and what combinations would have been obvious to one of ordinary skill in the art.

92. My conclusions as to the profile of a POSA and all my conclusions in this declaration, including those relating to priority and unpatentability, would be the same regardless of the priority date. Moreover, I had or surpassed the level of skill of a POSA at all potentially relevant times, including as far back as April 22, 2011 (i.e., the earliest priority date asserted by Patent Owner).

VI. CLAIM CONSTRUCTION OF TERMS OF THE '244 PATENT

93. As I discussed above, I have been informed that for purposes of *inter-partes* reviews, the standard for claim construction of terms within the claims of the patent is the same as that applied in federal district court litigation. I have been

asked to assume that the claim terms have their plain and ordinary meaning to a person skilled in the art in light of the specification and the prosecution history. My opinions herein would not change under any reasonable interpretation of the claim.

94. I understand that the first district court litigation involving the '244 patent was filed on September 20, 2023 in the Eastern District of Texas. To my knowledge, the '244 patent is not involved in any other litigation. I have been informed that no claim construction has taken place for the '244 patent. To the extent that Patent Owner offers a construction of any claim term, I reserve the right to respond.

VII. SUMMARY OF OPINIONS ON UNPATENTABILITY

95. The '244 patent is generally directed to methods for transferring settings based on user profiles to vehicles. The challenged claims are claims 1, 2, 4-22 of the '244 patent. Claims 1, 2, 4-16 are generally directed to server-executed methods of receiving a request, processing user information, and transferring settings. Claims 17-22 are generally directed to cloud-based systems having one or more data centers, where servers have program instructions for enabling connections with vehicles and providing services to vehicles. In claims 1 and 17, some of the settings are restricted for use on the vehicle. Claims 17-22, although apparently directed to "systems," additionally recite the systems "comprising:..." and list several *method* steps, including receiving a request, processing user

information, and transferring settings.

96. In my opinion, prior art renders the challenged claims unpatentable. For example, *Rector* (Ex. 1006), in combination with other prior art, renders obvious all the limitations of the challenged claims. The other prior art includes *Kleve* (Ex. 1007), *Yassin* (Ex. 1008), *Patenaude* (Ex. 1009), and *Faenger* (Ex. 1010).

A. Summary of *Rector*

97. As an example of how the prior art renders the challenged claims unpatentable, *Rector*, entitled “Devices, Systems and Methods for Controlling Permitted Settings on a Vehicle,” discloses methods of receiving a request, processing user information, and transferring settings, some of which are restricted for use on the vehicle.

98. *Rector* acknowledges the same safety concerns that the ’244 patent purports to have recognized years later, namely, that certain controllable features and settings of vehicles may contribute to driver distractions. *Compare* Ex. 1006, ¶ [0004], *with* Ex. 1001, 12:2-15. Just like the ’244 patent purports to address, *Rector* is directed to technologies that “can alleviate some of [the] distractions” facing immature or inexperienced drivers. Ex. 1006, ¶¶ [0004]-[0007]. It discloses systems and methods that can alter the permitted settings of a vehicle according to a driver’s identity. *Id.*, ¶ [0008]. And just like the ’244 patent, *Rector* discloses that

an administrator (e.g., a parent) can impose restrictions on their child's use of the vehicle. *Compare id.*, ¶¶ [0032]-[0033] (“The parent may prohibit these stations [and other settings] in the settings for the child.”), *with* Ex. 1001, 11:22-32 (“[T]he child can be provided with restricted use of the vehicle.”).

99. In an embodiment, *Rector* states that a smart vehicle captures a unique identifier from a driver, which is used to reference a database to determine settings for the driver. Ex. 1006, ¶ [0023]. These settings may be set by a “controlling authority,” which may be, e.g., “a parent or employer of the driver.” *Id.* The settings “may limit certain devices within the smart vehicle and/or the smart vehicle itself,” such as “radio settings, wireless communication device settings, and various other settings . . . to limit distractions to the driver.” *Id.*, ¶ [0008]. An example of a system for controlling a driver's settings is shown in Fig. 1 (below), which illustrates a smart vehicle 100 wirelessly communicating with a settings server 130 via a network 140. *Id.*, ¶ [0030].

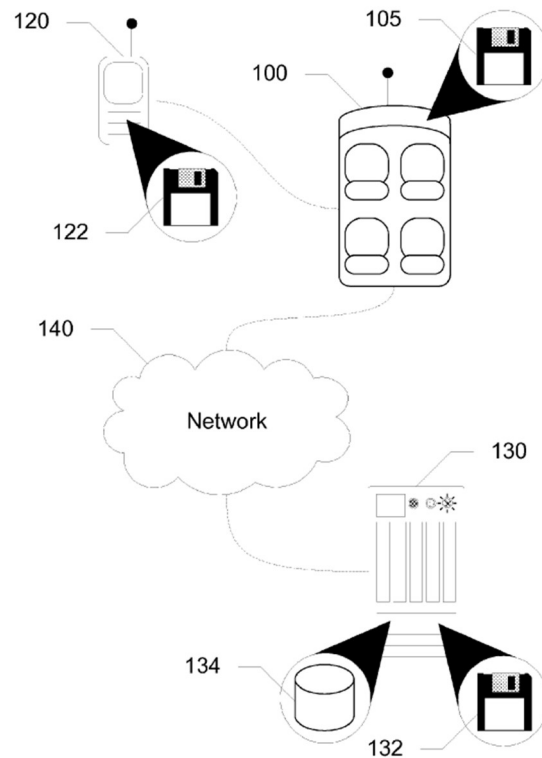


Figure 1

Fig. 1 of *Rector*

100. *Rector* describes an exemplary method with reference to Fig. 3 (below) in which a driver is identified (S351), his/her settings are looked up and transmitted to the vehicle (S352), and then, restrictions are applied to prevent the driver from adjusting vehicle features in an impermissible manner (S354 and S356). *Id.*, ¶ [0043]. *Rector* explains that steps are performed with a server, e.g., “transmit[ing] the unique identifier . . . to settings server 130” and “compar[ing] with a set of unique identifiers on a server,” “server logic 132 match[ing] the driver’s identity with corresponding settings from database 134 on settings server 130,” and “transmit[ing] the permitted settings to the client logic.” *Id.*, ¶¶ [0031],

[0043], claim 1.

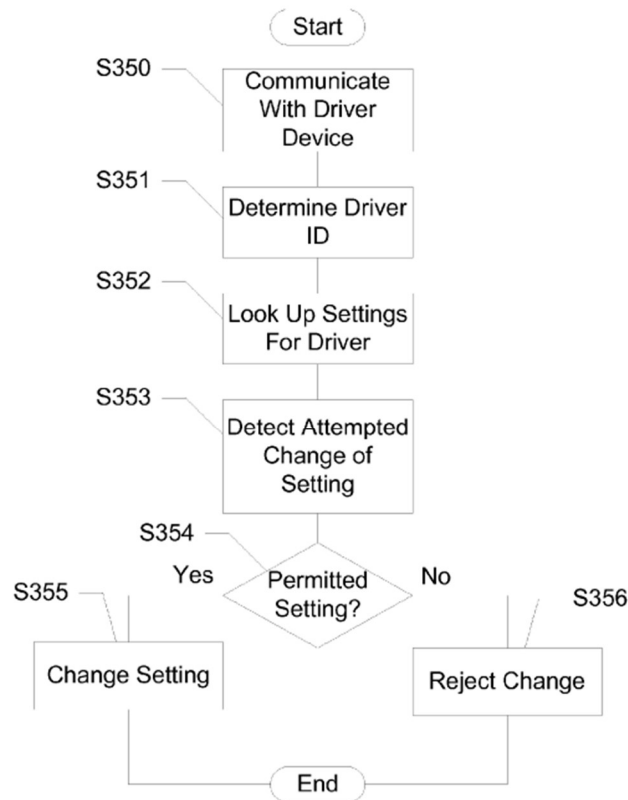


Figure 3

Fig. 3 of *Rector*

101. In one example, if the driver attempts to raise the radio volume above a permitted level, such change is rejected. *Id.*, ¶ [0043]. Similarly, if the driver attempts to change the radio station to a restricted channel, such change is blocked. *Id.*, ¶¶ [0043], [0059], Fig. 11 (below).

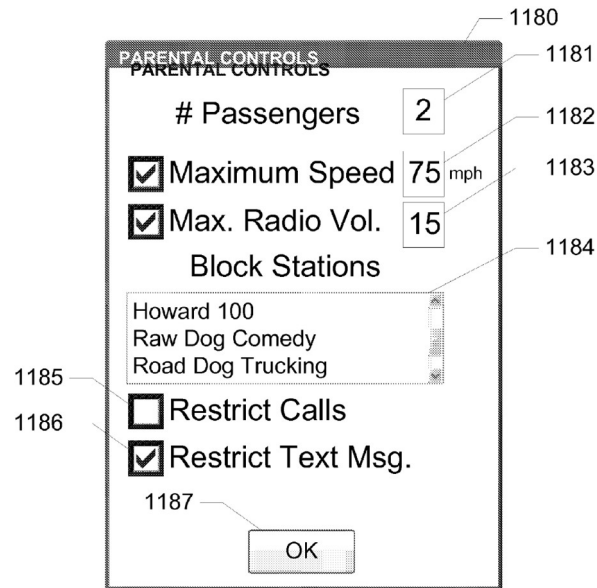


Fig. 11 of *Rector*

B. Summary of *Kleve*

102. *Kleve*, entitled “Credential Check and Authorization Solution for Personal Vehicle Rental,” is directed to a rental car system using “cloud computing” where vehicle owners and temporary users can create website accounts for the offer and acceptance of short-term vehicle rentals. Ex. 1007, Title, Abstract, ¶¶ [0036], [0056]. *Kleve* discloses that once the owner and temporary user come to an agreement, which includes having various restrictions made on usage of the vehicle, and when the temporary user is authorized/verified, the server will transmit a “virtual key” to the temporary user’s mobile device which can be used to unlock and drive the rental vehicle. *Id.*, ¶¶ [0036]-[0049]. *Kleve* also discloses that the “Temporary User may have vehicle preset settings applied,” such as “radio

presets, seat and mirror position” and other “personalization” when renting the vehicle. *Id.*, ¶ [0050], Fig. 3B (below). Also, the “Temporary User may set up a user profile,” which may include details about the vehicle he/she intends to rent. *Id.*, ¶¶ [0037], [0086]. And further, certain restrictions can be made on use of the vehicle. *Id.*, ¶¶ [0038], [0042], [0053] (e.g., involving taking remedial action if it is determined that the user is abusing the vehicle, like playing the stereo too loud).

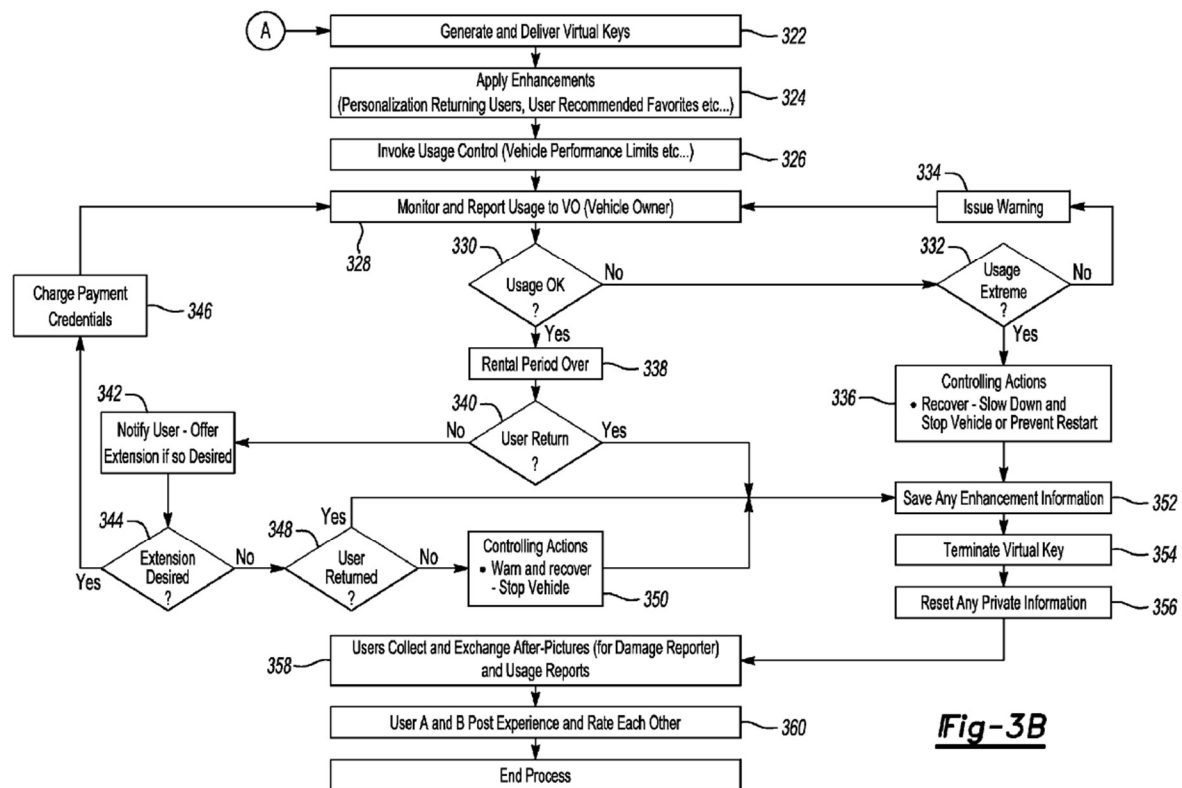
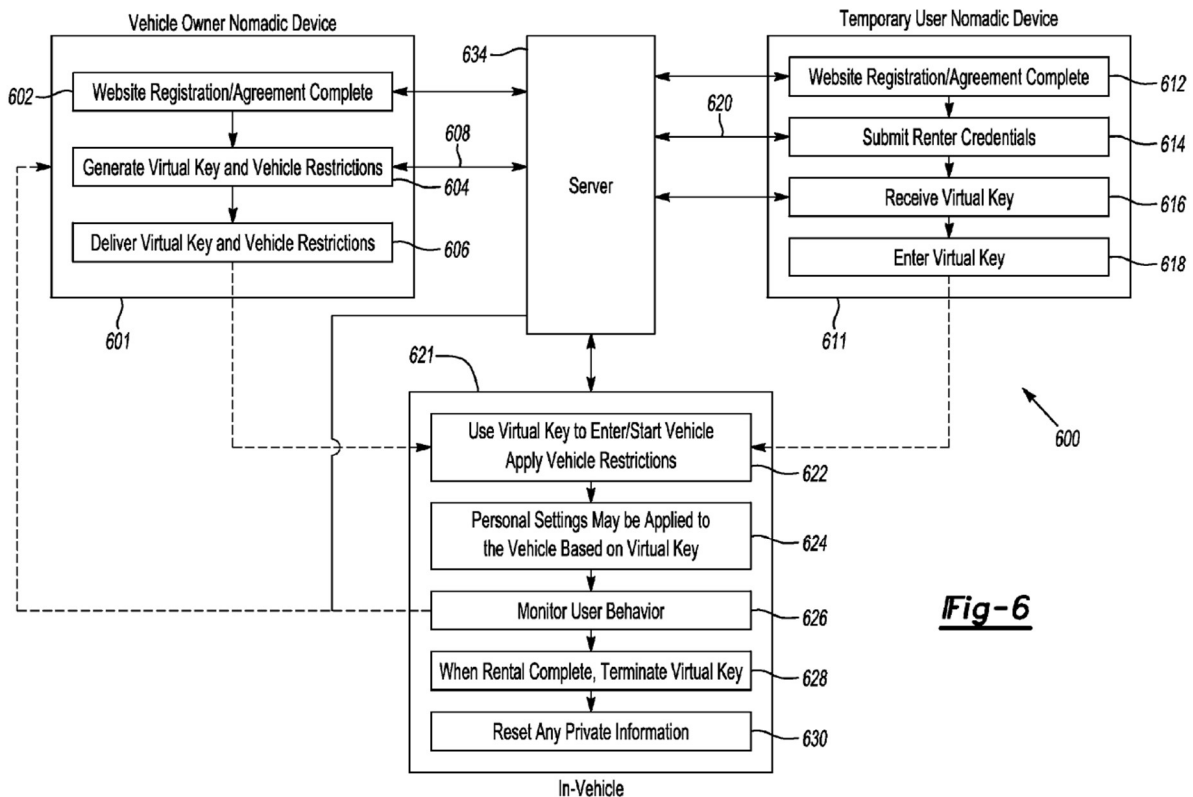


Fig. 3B of Klevé

103. *Klevé* explains that its processes “may be executed by a computing system in communication with a vehicle computing system” which may include “a

server.”) *Id.*, ¶ [0035]. For example, *Kleve* describes “remote credential verification” that “us[es] a server.” *Id.*, ¶ [0049]. In particular, the temporary user “enter[s] a credential verification password at the vehicle’s touchscreen” and the “server . . . [will] compare and verify authorization.” *Id.*; *see also id.*, ¶ [0048] (“credential authorization may be processed by . . . a server . . .”).

104. Fig. 6 illustrates a rental micro-business system that includes verification of renter credentials by a server, and thereafter allowing access to the vehicle and applying personal settings.



C. Other Prior Art

105. The secondary references, *Kleve* (Ex. 1007), *Yassin* (Ex. 1008),

Patenaude (Ex. 1009), and *Faenger* (Ex. 1010), in my opinion, demonstrate other well-known elements of vehicle wireless communication systems present in the art, namely, transferring settings to other vehicles (claims 2, 10, 18, and 22), updating settings (claim 4), removing settings (claim 19), determining learned settings (claims 5-8), and producing recommended settings (claims 6, 8, 21).

106. In the analysis that follows, I identify the following prior art that, in my opinion, disclose or render obvious the challenged claims of the '244 patent and explain the supporting reasoning:

Grounds of Unpatentability	
1	<i>Rector</i> in combination with <i>Kleve</i> renders obvious claims 1, 9, 11-17, 19, and 20
2	<i>Rector</i> in combination with <i>Kleve</i> and <i>Yassin</i> renders obvious claims 2, 4, 10, and 18
3	<i>Rector</i> in combination with <i>Kleve</i> , <i>Yassin</i> and <i>Patenaude</i> renders obvious claims 5-7
4	<i>Rector</i> in combination with <i>Kleve</i> and <i>Faenger</i> renders obvious claims 8 and 21
5	<i>Rector</i> in combination with <i>Kleve</i> , <i>Faenger</i> , and <i>Yassin</i> render obvious claim 22

VIII. GROUND 1: OBVIOUSNESS OF CLAIMS 1, 9, 11-17, 19, AND 20 IN VIEW OF RECTOR AND KLEVE

107. As detailed below, in my opinion, *Rector* in view of *Kleve* renders

claims 1, 9, 11-17, 19, and 20 obvious.

A. Independent Claim 1

1[preamble]: “A method executed by a server of a cloud services system that is configured to interface with vehicles, comprising:”

108. To the extent the preamble is found limiting, *Rector* discloses this limitation. For example, *Rector* discloses a method (e.g., Fig. 3) “for controlling a driver’s settings” using a network, which may include a “complex of servers.” Ex. 1006, Title, Abstract, ¶¶ [0010], [0025]-[0027], [0043]. *Rector* discloses embodiments in which a server transmits and causes certain settings for the driver to be “implement[ed]” by a smart vehicle. *Id.*, ¶¶ [0011], [0031], [0038], [0043], [0057], claim 1. *Rector* further states “the present invention is a system for controlling a driver’s settings, the system including a network; [and] a smart vehicle in communication with the network.” *Id.*, ¶ [0009].

109. Accordingly, in my opinion, *Rector* discloses this limitation.

1[a]: “receiving, by the server, a request from electronics of a vehicle to access a profile for a user account, the request identifies user information for a user to use the vehicle;”

110. *Rector* discloses a request originating from electronics of a vehicle (e.g., smart vehicle 100), and which is received by a server (e.g., settings server 130). *Id.*, ¶¶ [0008], [0009], [0023], [0030]-[0031]. Such a request is to access a profile for a user account (e.g., settings for the driver), and it identifies user

information (e.g., a unique identifier) for a user to use the vehicle. *Id.* In *Rector*, the user/driver is associated with a “user account,” which “includes several attributes for a particular user, including a unique identifier . . . [and] driver settings, and other information.” *Id.*, ¶¶ [0009], [0027].

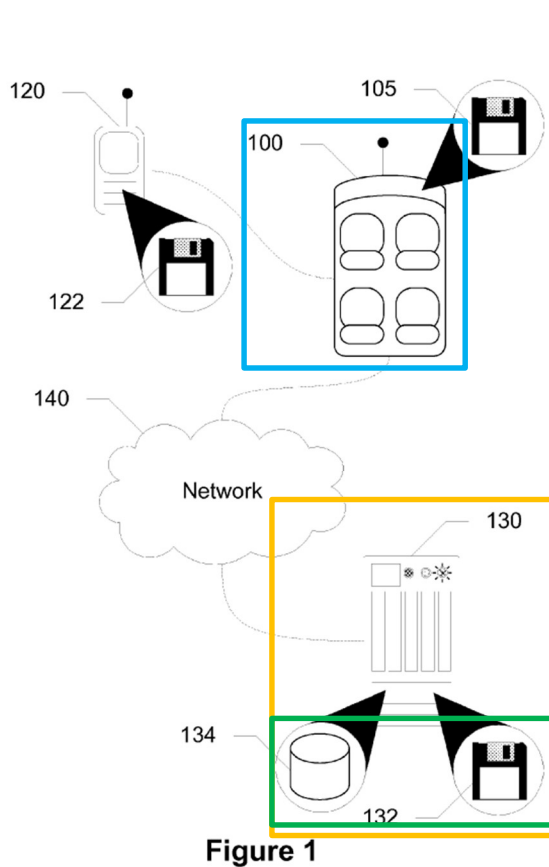


Figure 1

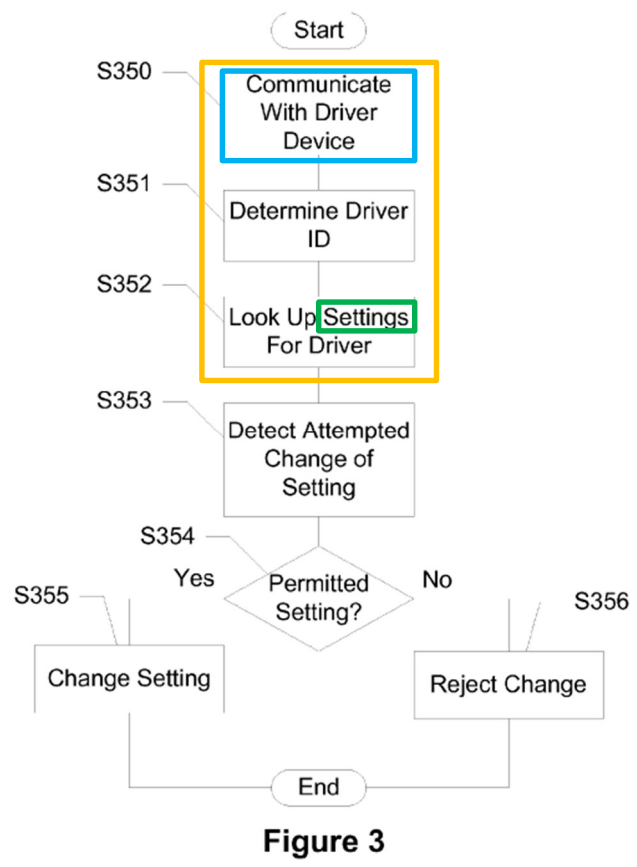


Figure 3

Annotated Figs. 1 and 3 of *Rector*

111. Specifically, *Rector* states “[s]mart vehicle 100 is in communication with wireless communication device 120 and with settings server 130 over network 140.” *Id.*, ¶ [0030], Fig. 1. Smart vehicle 100 contains client logic 105, which “may be formed from combinations of software and hardware.” *Id.*, ¶¶ [0025], [0030].

With reference to the method of Fig. 3, *Rector* explains that communication between the smart vehicle and other devices “may occur as the driver enters the smart vehicle, as the driver starts the smart vehicle, etc.” *Id.*, ¶ [0043]. Client logic 105 (of the vehicle) “transmits the unique identifier . . . to settings server 130 via network 140.” *Id.*, ¶ [0031]. *Rector* also describes unique identifiers associated with a driver (e.g., his/her device, smart card) detected by electronics (e.g., transceiver, smart card reader) of the smart vehicle, and then transmitted to a server. *Id.*, ¶¶ [0031], [0055], [0057] (“[T]his information [including the driver’s unique identifier] can be transmitted to a settings server to implement settings for the driver.”).

112. *Rector* discloses various examples of a server receiving a request from electronics of a vehicle, as reflected in *Rector*’s claims for “a settings server on the network, the settings server including a user account for a user of the wireless communication device, the user account including permitted settings for the user; a client logic on the smart vehicle to retrieve a unique identifier from the wireless communication device and *transmit* the unique identifier *to the settings server*; and a server logic on the settings server to associate the unique identifier with the user account, determine the permitted settings for the user, and transmit the permitted settings to the client logic” *Id.*, claims 1, 11 (“requesting a unique identifier from a wireless communication device in communication with a smart vehicle”).

113. Accordingly, in my opinion, *Rector* discloses this limitation.

1[b]: “processing, by the server, at least part of the user information to verify the user for accessing the profile associated with the user account, the profile having a plurality of settings of the user for the vehicle,³ at least part of the plurality of settings for the profile being stored on storage accessible to the cloud services system; and”

114. A POSA would have been motivated and found it obvious to combine the teachings of *Rector* and *Kleve*, and would have done so for multiple reasons. For example, one would have considered the teachings of *Kleve* for improving the security of *Rector*, and would have had a reasonable expectation of success in doing so.

115. *Kleve* states that its system “may be further extended to facilitate the virtual key with additional security by requiring remote credential verification at the vehicle.” *Id.*, ¶ [0049]. *Rector* states that secondary sensors, such as biometrics identifiers, may be used “for security purposes.” Ex. 1006, ¶ [0049]. Thus, *Rector*, which discusses vehicle-side verification, is ready for improvement of its verification method, and applying *Kleve*’s server-side verification would be a natural, straightforward way that its system could be “extended” with “additional security,” as taught by *Kleve*.

³ The COC adds “and at least one of said plurality of settings being restricted for use on the vehicle,” Ex. 1002, 636, which *Rector* discloses as discussed below.

116. Both *Rector* and *Kleve* are analogous art to the claimed invention of the '244 patent because the references are (1) from the same field of endeavor as the claimed invention (i.e., applying settings to vehicles based on user profiles); and/or (2) the references are reasonably pertinent to the problem faced by the inventor (i.e., improving application of settings to vehicles).

117. For example, *Rector* illustrates the importance of automobile safety, pointing out the risks of driver distractions, and aspiring to reduce such distractions by “plac[ing] restrictions or otherwise creat[ing] settings for the driver.” Ex. 1006, ¶¶ [0004]-[0007]. *Kleve* also recognizes the importance of ensuring “safe . . . continued operation,” and describes methods of monitoring the temporary user’s use of the vehicle and applying restrictions, if necessary (e.g., when operating the vehicle under excessive/extreme conditions). Ex. 1007, ¶¶ [0040], [0053], [0079]. Both *Rector* and *Kleve* pertain to transmitting and applying user settings to a vehicle in improved (e.g., more convenient/secure) ways. Ex. 1006, ¶¶ [0049], [0059]; Ex. 1007, ¶¶ [0049], [0050], Fig. 3B. Furthermore, both *Rector* and *Kleve* describe “settings” as including multimedia settings, such as preferred radio stations. Ex. 1006, ¶¶ [0008], [0023]; Ex. 1007, ¶¶ [0050], [0072].

118. Turning to the disclosures of the references, *Rector* describes, referencing Fig. 3, that step S351 includes determining the identity of the driver, which may be performed by comparing the unique identifier “with a set of unique identifiers on a server on a network.” Ex. 1006, ¶ [0043]. *Rector* states it is the server that “associate[s] the unique identifier with the user account, [and then] determine[s] the

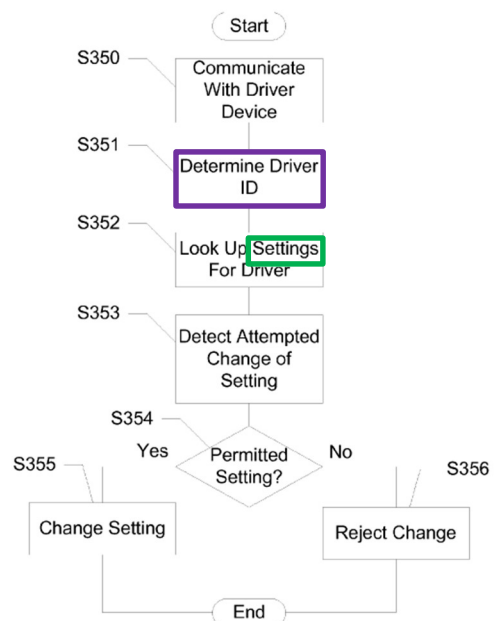


Figure 3

permitted settings for the user.” *Id.*, ¶ [0009], claim 1. *Rector*’s method comprises “look[ing] up settings for the driver.” *Id.*, ¶ [0043]. And such settings include “driver created settings as well as controlling authority settings, such as parental controls, based upon the driver’s identity” *Id.*, ¶ [0031].

119. *Rector* discloses several means of driver association or verification, including “allowing the settings control system to verify that the correct party is determined to be the driver and appropriate settings are enforced.” *Id.*, ¶ [0047]. Such means include using “a biometric identifier 514, for instance, a fingerprint scanner . . . to associate the driver with a user account” and ensure “the appropriate settings [are] put in place.” *Id.*, ¶ [0049]. One of ordinary skill would understand that comparing an acquired fingerprint to a database of stored fingerprints, *id.*, is

an example of “**verifying**.”

120. To the extent that element 1[b] is interpreted to require the *server* to **verify the user** for accessing the profile associated with the user account,” it would have been obvious to modify *Rector* such that verification is performed by the server, as in *Kleve*. This would be an example of a system being “further extended . . . with additional security,” as taught by *Kleve*. Ex. 1007, ¶ [0049].

121. *Kleve* teaches **processing, by the server**, (e.g., **server 401, 506, or 634**) at least part of the **user information** (e.g., **credentials**) to **verify the user** (e.g., performing **remote credential verification**) for accessing the profile associated with the user account, the profile having a plurality of **settings** (e.g., **personal settings/radio presets**) of the user for the vehicle. For example, *Kleve* shows steps 614/620 of submitting renter credentials (e.g., login ID and password, fingerprint/facial recognition) to server 634. *Id.*, ¶ [0069], Fig. 6 (below). *Kleve* also explains its process of remote credential verification includes “the Temporary User entering a credential verification password . . . while having the . . . server . . . compare and verify authorization.” *Id.*, ¶ [0049]. *Kleve* explains that this process provides access for the renter/temporary user to use the vehicle and apply enhancements/personal settings to the vehicle, including “radio presets.” *Id.*, ¶¶ [0049], [0072]. Additionally, *Kleve* describes the temporary user having a user account/user profile that can be set up and managed via a website. *Id.*,

¶ [0037].

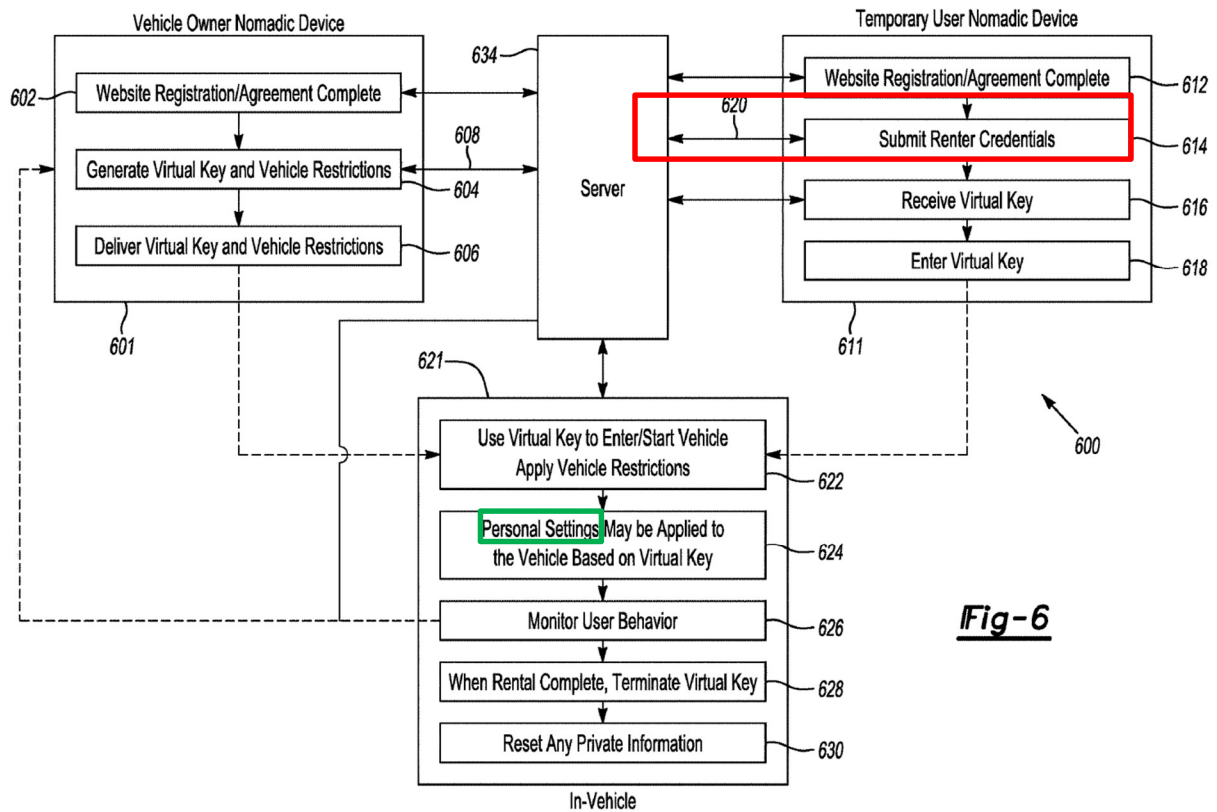


Fig-6

Annotated Fig. 6 of Kleve

122. It would have been obvious to modify *Rector*’s method of controlling driver settings to include server-side verification, as in *Kleve*, for additional security. Ex. 1007, ¶ [0049]. For example, before “implementing settings based upon the driver” in *Rector*, one would have been motivated and found it obvious to verify the driver’s credentials using the server, as in *Kleve*. Ex. 1006, ¶ [0049]. As *Kleve* explains, performing verification remotely provides a further layer of security such that a remote component (e.g., a “server”) will “compare and verify authorization.” *Id.*, ¶ [0049]. In contrast to local verification, a server may be kept

more up-to-date, and may be better protected from security attacks. For example, there may be a situation where a vehicle is in a location where it is unable to communicate with a centralized authority (like a server or data center that administers a settings-applying system). While it is out of contact, the vehicle would be unable to receive updates, such as changes to credentials, changes to who is authorized, or a user's level of access. A user might have realized that his/her password is compromised and attempt to change it via other devices connected to the server. However, if the vehicle is out of contact with the server it would not be able to update its registry of credentials, and if it uses only local verification, it would be vulnerable to login attempts using compromised credentials. The server-side verification may be done above and beyond any verification that takes place locally. The server-side verification could also be done as a check on local verification. A POSA would have understood how to make an appropriate system with a desired level of security. A POSA would have had a reasonable expectation of success combining *Rector* and *Kleve* because, as explained in both, systems using servers and connected devices (e.g., vehicles) can have various processes executed using processing capabilities of the server; that is, implementing *Kleve*'s server verification would have been within the capability of *Rector*'s server. See *id.*, ¶ [0035] ("In addition to having exemplary processes executed by a vehicle computing system located in a vehicle, in certain embodiments, the exemplary

processes may be executed by a computing system in communication with a vehicle computing system. Such a system may include . . . a server . . .”), ¶ [0057] (“In this illustrative embodiment, the centralized system is a server system that includes processing capability for incoming nomadic device signals designated to interact with a remote vehicle 421.”); Ex. 1006, ¶ [0006] (remarking that the functionality of connected devices with processors in then-current technology was not being exploited to its full level), ¶ [0027] (“A settings server can include several network elements, including other servers . . .”).

123. Next, *Rector* further discloses that at least part of the plurality of **settings** for the profile is **stored on storage accessible** to the cloud services system (e.g., **database 134 on settings server 130**). Ex. 1006, ¶ [0031] (“settings *from database 134 on settings server 130*”). Additionally, *Rector* discloses “the **settings** may be stored on . . . the **memory** of the smart vehicle.” *Id.*, ¶ [0038]. The smart vehicle’s storage is also accessible to the cloud services system. *Id.*

124. Assuming the COC is considered, such that claim 1 also recites “**at least one of said plurality of settings being restricted for use on the vehicle,**” *Rector* discloses this limitation too. Indeed, *Rector* centers on the need for “plac[ing] **restrictions**” on settings for a driver. *Id.*, ¶ [0007]. *Rector* discloses, for example, client logic of the smart vehicle “comparing the detected attempted change with the **database** of permitted or **prohibited settings** for the driver.” *Id.*, ¶ [0043]. “If the

change in setting is permitted, the change is allowed S355” but “[i]f the attempted setting is **not permitted**, the setting is **rejected** S356.” *Id.*

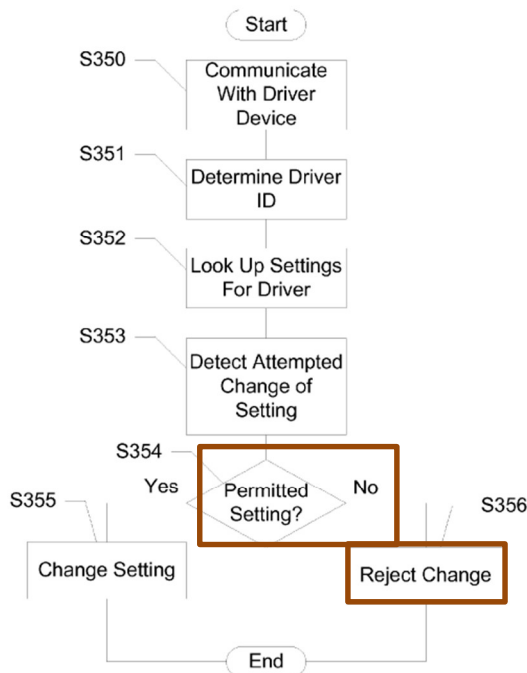


Figure 3

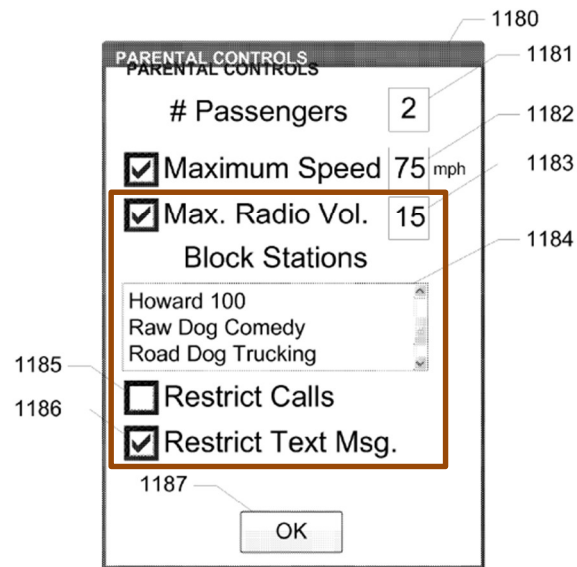


Figure 11

Annotated Figs. 3 and 11 of *Rector*

125. *Rector* gives examples of **restricted settings**, such as “maximum radio volume,” “blocking certain radio stations,” “prevent[ing] the driver from receiving calls,” “prevent[ing] the driver from creating text messages,” or otherwise “limiting services offered” *Id.*, ¶ [0059], Fig. 11.

126. Accordingly, in my opinion, *Rector* and *Kleve* teach or suggest this limitation.

1[c]: “**transferring, by the server**, upon **verifying** the user information, one or more settings of the plurality

of **settings** to⁴ the vehicle,”

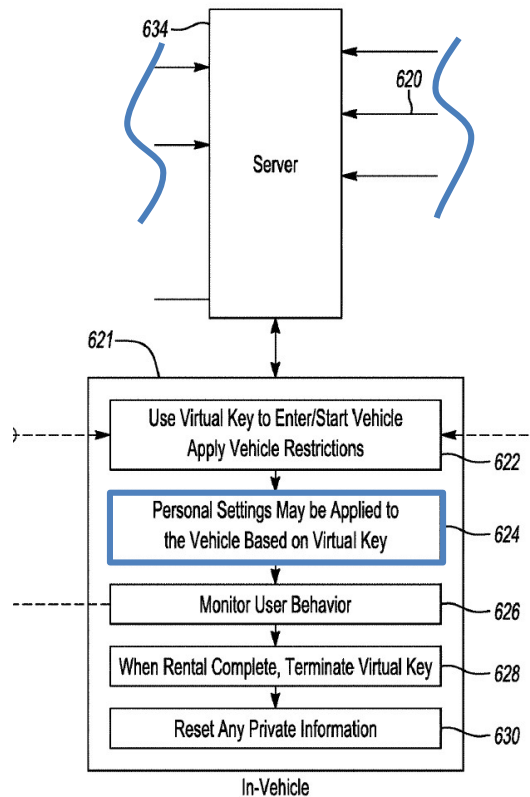
127. *Rector* discloses its **server** “**transmit[s]** the permitted **settings** to the client logic [on the smart vehicle], wherein the client logic limits functions of the smart vehicle based upon the permitted **settings**.” *Id.*, ¶ [0009]. *Rector*’s “permitted settings” can include “prohibition[s],” such as “a prohibition of the use of a function of the wireless communication device.” *Id.*, claim 7. As shown in Fig. 3, such transmission occurs upon **verifying** the user information (e.g., after step S351 of determining the driver ID). *Rector* discloses implementing the **settings** only upon determining the driver’s identity. *Id.*, ¶¶ [0010], [0043], [0057].

128. These disclosures are reflected in the claims of *Rector*, as well, which recite “a **server logic on the settings server** to associate the unique identifier with the user account, determine the permitted settings for the user, and **transmit** the **permitted settings** to the client logic.” *Id.*, claim 1. To the extent Patent Owner may argue that *Rector* does not explicitly disclose the server **verifying** the user information, upon which step the server then transfers one or more settings of the plurality of settings, it would have been obvious to modify *Rector* such that verification occurs using the server, as in *Kleve*. *See supra*, VIII.A.1[b]. In combining *Rector* with *Kleve*, as discussed above, it follows that settings would be

⁴ The COC adds the limitation “**storage of**” (the vehicle), Ex. 1002, 636, which *Rector* discloses as discussed below.

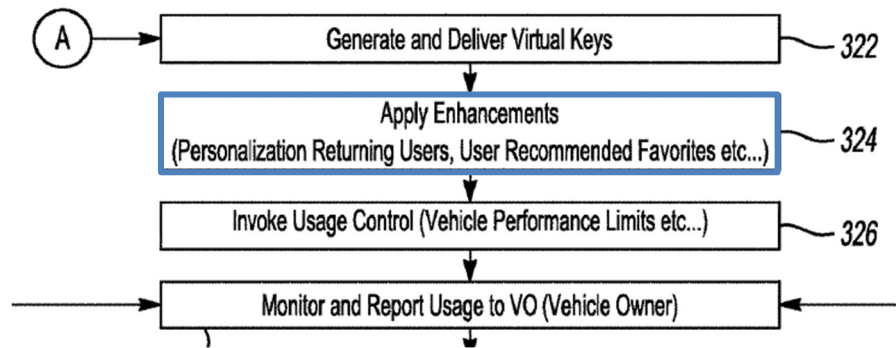
transferred upon verification, occurring at the server.

129. For example, *Kleve* shows personal settings being applied after the user is verified. Ex. 1007, Fig. 6 (excerpted below).



Annotated Excerpt of Fig. 6 of *Kleve*

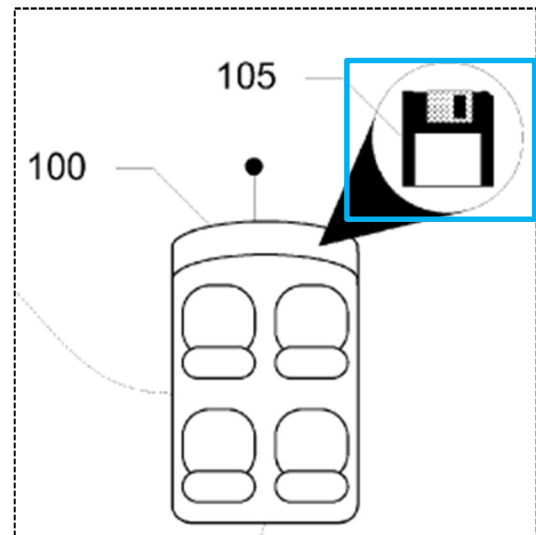
130. *Kleve* also shows enhancements, including personalization, such as radio presets and seat and mirror positions, being applied (e.g., step 324) after remote credential verification (e.g., step 304). *Id.*, ¶¶ [0049]-[0050], Fig. 3B (excerpted below).



Annotated Excerpt of Fig. 3B of *Kleve*

131. It would have been obvious to modify *Rector*'s method of controlling driver settings to transmit settings upon verifying user information by the server, as in *Kleve*, as it would be a natural consequence of adding security by including the server-side verification of *Kleve*.

132. Furthermore, assuming the certificate of correction is considered, such that claim 1 also recites “[storage of](#),” *Rector* discloses this limitation too. As discussed above, *Rector* discloses one or more [settings](#) being sent to client logic of the smart vehicle. Ex. 1006, ¶ [0009], claim 1. *Rector* explains that logic, such as the client logic, encompasses [storage](#) (e.g., [memory](#)). *Id.*, ¶¶ [0024]-[0025], [0030].



Further, *Rector* shows in Fig. 1 (excerpted, right) an example of client logic 105 encompassing a [storage medium](#) on smart vehicle 100. *Rector* goes on to explain

“the **settings** may be stored on . . . the **memory** of the smart vehicle.” *Id.*, ¶ [0038].

133. Accordingly, in my opinion, *Rector* and *Kleve* teach or suggest this limitation.

1[d]: “the transferring is configured to instruct software and/or hardware associated with said electronics of the vehicle to apply said one or more settings to the vehicle for customizing said vehicle to use said one or more settings associated with the profile,”

134. As discussed above, *Rector* discloses its server “transmit[s] the permitted **settings** to the client logic [of the smart vehicle.]” *Id.*, ¶ [0009], claim 1. These transmitted settings cause the client logic to **implement** them. *Id.* (“[T]he client logic **limits functions** of the smart vehicle based upon the permitted **settings**.”).

135. *Rector* also discloses that the client “logic” which implements the setting instructions can be “**software**” or “**hardware**,” or both. *Id.*, ¶ [0025] (“Logic may be formed from combinations of software and hardware.”). Further, *Rector* explains that its client logic can take the form of “instruction signals and/or data that may be applied to direct the operation of a processor.” *Id.* Thus, *Rector*’s server instructs the client logic to apply the settings.

136. Claim element 1[d] recites that the “transferring is configured to instruct software and/or hardware . . . to apply said one or more **settings** . . . to use

said one or more **settings**” The earlier recited “transferring” is a step executed by the server. *Supra*, VIII.A.1[c]. To the extent this recitation of 1[d] has any limiting effect on the claimed “transferring” step, *Rector* discloses it. For example, *Rector* states that “[t]he **settings** may **limit** certain devices within the smart vehicle and/or the smart vehicle itself.” Ex. 1006, ¶ [0023]. *Rector* discloses numerous examples of the ways that software or hardware of the smart vehicle is instructed to **apply** the **settings** for customizing the vehicle. *See, e.g., id.*, ¶¶ [0031]-[0034], [0038], [0043], [0057], [0059]. *Rector*’s server makes a transmission to the vehicle (or storage thereof), and hardware/software of the vehicle (e.g., client logic) simply follows instructions to “implement” settings for the driver.” *Id.*, claim 1 (“[A] server logic on the settings server to . . . transmit the permitted settings to the client logic, wherein the client logic [of the vehicle] limits functions of the smart vehicle based upon the permitted settings.”). *Rector* is thus capable of satisfying, and does satisfy, this element of claim 1.

137. Accordingly, in my opinion, *Rector* discloses this limitation.

1[e]: “wherein the vehicle uses **wireless communication for exchanging data with the cloud services system and for receiving said one or more **settings** for the profile.”**

138. *Rector* describes “[w]ireless communication devices communicate with each other and with other elements via a **network**” *Id.*, ¶ [0026]. For

example, “[s]mart vehicle 100 is in **communication** with wireless communication device 120 and with settings server 130 over **network 140**.” *Id.*, ¶ [0030], Fig. 1 (below, left). One example of *Rector*’s network includes a broadband network. *Id.*, ¶ [0026]. One would understand that network 140 is wireless. Smart vehicle 100, which should operate in various “situations” across “the United States,” *id.*, ¶ [0004], would not be tethered with wires. This is true also for the other types of vehicles described by *Rector*, including “cars, trucks, buses, as well as aircrafts and watercrafts.” *Id.*, ¶ [0028].

139. *Rector* explains “[t]ransceiver 206 allows smart vehicle 200 to **wirelessly communicate** with other devices on a network” *Id.*, ¶ [0039]. Such communication includes the client logic (of the vehicle) sending/receiving the unique identifier. *Id.*, ¶¶ [0040] (“Client logic 205 retrieves the unique identifier from the driver’s wireless communication device and associates the identifier with a plurality of driver settings. These driver settings may be contained on memory 204, may be contained on an external server, may be contained on the driver’s wireless communication device, etc.”), [0057] (“Upon a determination of the driver’s identity, this information can be transmitted to a settings server to implement settings for the driver.”). Such communication also includes the server transmitting the settings to the vehicle, *id.*, ¶ [0009], as discussed above with respect to element 1[d]. *See supra*, VIII.A.1[d]; Ex. 1006, ¶ [0040], Fig. 2 (below,

right, illustrating transceiver 206 (“Trans”) of the smart vehicle for exchanging data).

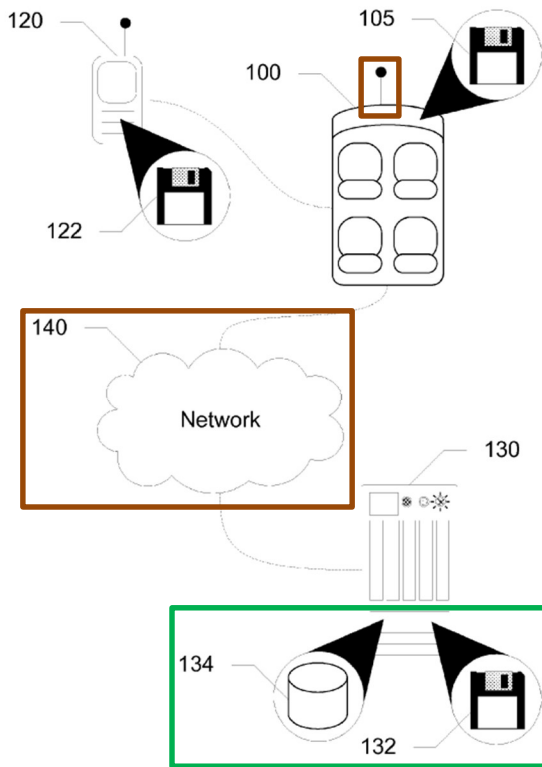


Figure 1

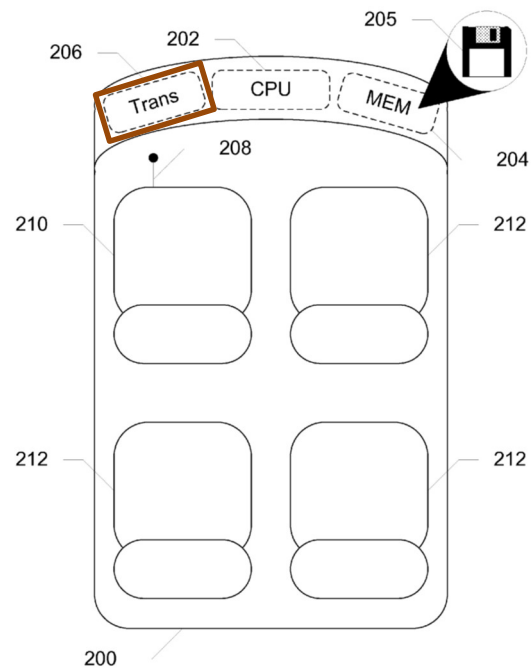


Figure 2

Annotated Figs. 1 and 2 of *Rector*

140. Accordingly, in my opinion, *Rector* discloses this limitation.

141. In sum, *Rector* and *Kleve* disclose, teach, or suggest every limitation of claim 1. It would have been obvious to combine *Rector* and *Kleve*, as explained above, and this combination renders claim 1 obvious.

B. Claim 9

9: “The method of claim 1, wherein the **request** is **automatically generated by the electronics of the vehicle** upon detecting a **pairing** with a user device of

the user, or input of credentials of the user for the user account.”

142. Further to element 1[a], *Rector* discloses that the request (e.g., unique identifier) is automatically generated by the electronics of the vehicle upon detecting a pairing with a user device of the user (e.g., pairing via Bluetooth, RFID, or other protocol with the driver’s cellular telephone, smart card, or other device).

143. *Rector* discloses that the driver can use a wireless communication device 120 that may be “a cellular telephone or a contactless smart card,” which communicates with smart vehicle 100 to identify the driver. *Id.*, ¶ [0030]. *Rector* describes an embodiment in which a unique identifier is associated with a driver’s device (e.g., cellular telephone or smart card) that is detected by electronics (e.g., a transceiver or smart card reader) of the smart vehicle. *Id.*, ¶¶ [0030], [0040], [0055], [0057]. Information identifying the driver (e.g., the unique identifier) can then be transmitted to other components in the system. For example, *Rector* states that the process of receiving the request (e.g., unique identifier) is initiated “with the smart vehicle communicating with a driver’s device” (i.e., automatically) and includes then “compar[ing] with a set of unique identifiers on a server on a network.” *Id.*, ¶ [0043]. *Rector* describes, for example, a passive RF system that causes a unique identifier to be transmitted when communication between

electronics of the smart vehicle and the user's device is established (i.e., automatically). *Id.*, ¶¶ [0056]-[0057]. "Upon a determination of the driver's identity, this information can be transmitted to a settings server to implement settings for the driver." *Id.* The "information" includes the unique identifier, upon which the driver's identity is determined. *Id.*, ¶¶ [0010], [0056]-[0057].

144. Communication between components in the system of *Rector* may be by radio, short range, or other wireless networks, including WiFi, Bluetooth, NFC, Zigbee, infrared, RFID, etc. *Id.*, ¶¶ [0026], [0039], [0043]. These components include the smart vehicle and user device. *Id.* *Rector*'s method (including processing the request) may be initiated upon the "smart vehicle communicating with [the] driver's device S350." *Id.*, ¶ [0043]. This "communication may occur as the driver enters the smart vehicle, as the driver starts the smart vehicle, etc." *Id.* And this communication may be via "BLUETOOTH." *Id.* Thus, *Rector* discloses automatically generating the request (e.g., unique identifier) upon detecting a pairing (e.g., pairing via Bluetooth) with the driver's device (e.g., his/her "cellular telephone, a contactless smart card, etc."). *Id.*

145. Accordingly, in my opinion, *Rector* discloses this limitation.

146. Additionally (or alternatively), *Kleve* teaches automatically generating a request by electronics of the vehicle upon input of credentials of the user for the user account. For example, *Kleve* describes an example of using a "matrix barcode

(ex. two-dimensional code)” with a smart phone. Ex. 1007, ¶ [0044]. A POSA would understand a QR code to be one such matrix barcode. In *Kleve*, the matrix barcode can be “used as the virtual key being recognized by the VCS [vehicle-based computing system].” *Id.* A “smart phone may be used to communicate the matrix barcode information to the vehicle rental micro-business system directly. The system may be able to communicate information from the smartphone to the vehicle notifying the VCS of a virtual key. Once the Temporary User has the matrix barcode scanned by the vehicle, the Smartphone may be able to connect with the VCS and be used to enter and enable the vehicle drive away event.” *Id.* A POSA would understand a virtual key in the form of a matrix barcode to be an example of a temporary user’s credentials. Also, *Kleve* describes “remote credential verification,” as discussed above, *supra* VIII.A.1[b]-[c], which involves the temporary user “entering a credential verification password at the vehicle’s touchscreen visual display.” Ex. 1007, ¶ [0049]. Upon gaining access to the vehicle, e.g., by providing the virtual key to the vehicle, and/or by logging in at the vehicle using the temporary user’s password, the temporary user may have his settings (“enhancements” or other personalization) applied. Thus, upon **input of credentials** of the temporary user at the vehicle, a process is started by the vehicle to apply the temporary user’s settings. A POSA would understand this to involve a **request** being generated by electronics of the vehicle, such as the vehicle sending

data to the server to retrieve the temporary user's enhancements/personalization and apply them.

147. In combining *Rector* and *Kleve*, *see supra*, VIII.A.1[b]-[c], it would have been obvious to have a request that identifies user information (e.g., *Kleve*'s "enhancements" or other personalization that is tied to the user) be automatically generated upon input of credentials (e.g., *Kleve*'s temporary user entering a credential verification password at the vehicle's touchscreen, or providing a matrix barcode to be scanned at the vehicle). Ex. 1007, ¶¶ [0044], [0049]-[0050]. *Kleve* explains, for example, after input (e.g., entering) of the user's credentials, "[a]t 324, the Temporary User may have vehicle preset settings applied" *Id.*, ¶ [0050]; *see also id.*, ¶ [0072] (After having input credentials, "[a]t step 624, the Temporary User's nomadic device may be paired with the VCS and may send personal settings to the vehicle including, but not limited to, radio station presets, navigation routes, and/or preferred climate control settings."). A POSA would have been motivated to combine and had a reasonable expectation of success in combining *Rector* and *Kleve* in this manner because, as *Rector* and *Kleve* both demonstrate, the predictable result of pairing a device or entering credentials at a vehicle is the vehicle may generate a request to prepare the vehicle for the user's use, by using the vehicle's onboard processor, which is capable of a wide variety of processing. *See, e.g.*, Ex. 1006, ¶¶ [0043]-[0047] (describing "backup means for

driver and passenger identification” executed by the vehicle, which may be based on communication with the driver/passenger devices, and which “introduce a redundancy to the present invention, allowing the settings control system to verify that the correct party is determined to be the driver and appropriate settings are enforced”), ¶¶ [0025], [0030]-[0031], [0038]-[0045] (*Rector* describing the “client logic” of the smart vehicle accomplishing various processes); Ex. 1007, ¶ [0022] (“the processor allows onboard processing of commands and routines”), ¶ [0035] (“exemplary processes executed by a vehicle computing system located in a vehicle”).

148. Thus, to the extent Patent Owner argues that *Rector* does not explicitly disclose the request being automatically generated by electronics of the vehicle upon **input of credentials** of the user for the user account, it would have been obvious to modify *Rector* such that the request is automatically generated upon entering credentials, as in *Kleve*. In combining *Rector* with *Kleve*, as discussed above, it follows that a request that identifies user information would be automatically generated upon input of credentials of the user for the user account.

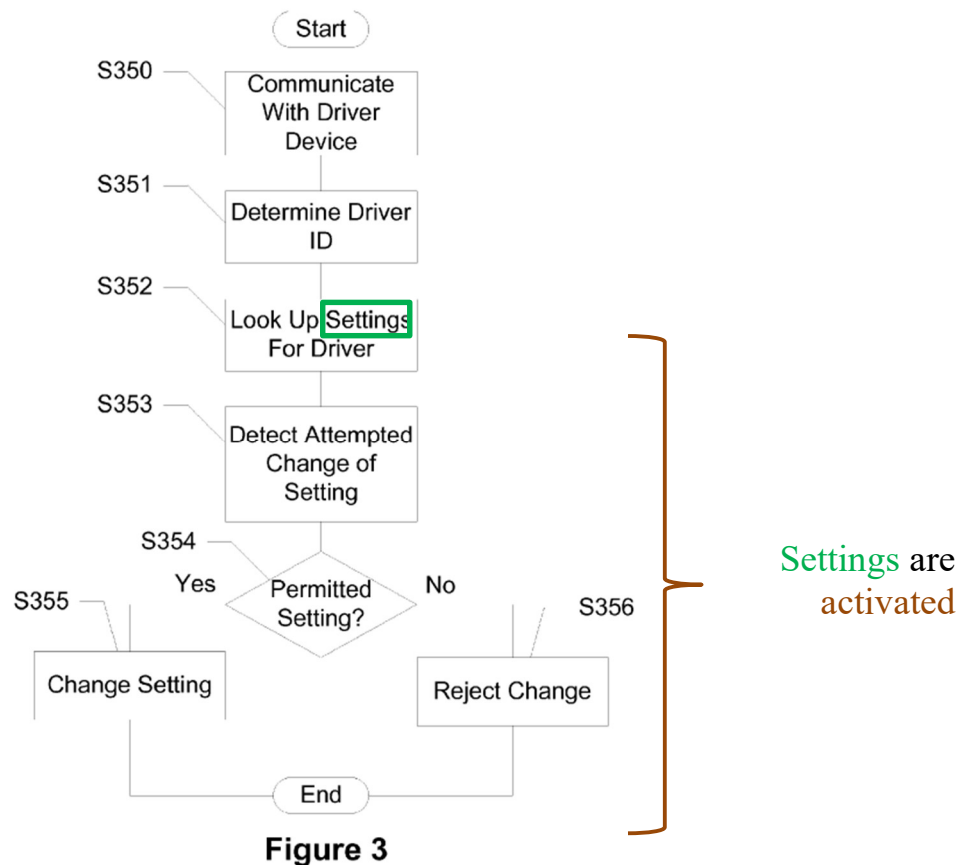
149. Thus, it is also my opinion that *Rector* and *Kleve* disclose, teach, or suggest the limitations of claim 9. It would have been obvious to combine *Rector* and *Kleve*, as explained above, and this combination renders claim 9 obvious.

C. Claim 11

11: “The method of claim 1, wherein the **profile is **activated** on the vehicle when the user information, including **biometrics data**, is activated.”⁵**

150. *Rector* explains that the **profile** (e.g., the driver’s **settings**) is activated after identifying the driver. Ex. 1006, Fig. 3 (below), ¶ [0043] (“*With the identity of the driver determined*, the smart vehicle looks up **settings** for the driver S352.”); *see also id.*, ¶ [0031] (“Server logic 132 matches the driver’s identity with corresponding settings . . .”). Indeed, it is while such **settings** are **activated** that *Rector*’s process of restricting certain setting changes takes place. *Id.*, ¶¶ [0043], [0059] (“With this **setting in place**, the driver is not able to play the radio at a volume in excess of the set limit . . .”).

⁵ The COC replaces “activated” in “when the user information, including biometrics data, is activated” with “verified,” Ex. 1002, 636, which *Rector* discloses as discussed below.



Annotated Fig. 3 of *Rector*

151. *Rector* also discloses using **biometrics data** (e.g., a **biometric identifier 514**) to activate or verify the **profile** (e.g., driver **settings**). *Id.*, ¶¶ [0046]-[0047] (“allowing the settings control system to verify that the correct party is determined to be the driver and appropriate settings are enforced”), ¶ [0049] (describing using “a biometric identifier 514, for instance, a fingerprint scanner” to verify the driver against “[a] database of drivers’ fingerprints”).

152. As discussed above, it would have been obvious to apply the settings of *Rector* upon server-side verification, which may include activation or

verification of user information. *Supra*, VIII.A.1[b]-[c].

153. Additionally, *Kleve* teaches that “once the schedule rental is complete the virtual key may be terminated, allowing the vehicle to be secured for either the Owners entry or the next temporary user scheduled to use the vehicle.” Ex. 1007, ¶ [0074]; *see also id.*, ¶¶ [0049], [0055]. A POSA would understand from this that the user’s profile is only activated on the vehicle when the user information, including biometrics data, is activated or verified. *Kleve* further states, for example, “[a]ny personal settings or private information entered onto or within the VCS [vehicle-based computing system] by the Temporary User may be reset after the schedule rental period has been complete[d] at step 630.” *Id.*

154. Thus, *Rector* and *Kleve* disclose, teach, or suggest every limitation of claim 11. It would have been obvious to combine *Rector* and *Kleve*, as explained above, and this combination renders claim 11 obvious.

D. Claim 12

12: “The method of claim 1, wherein the **profile includes one or more **roles** for the plurality of settings, wherein each **role** can include one or more of fuel use settings, or **driving restriction settings**, or **location based settings**, or **time based use settings**, or automatic purchase settings, or combinations of two or more thereof.”**

155. I understand that claim 12 is not asserted against Petitioner. Nevertheless, *Rector* discloses it.

156. The disclosure of *Rector* centers on the need for enforcing **restrictions** and may do so with respect to certain **roles** (e.g., certain **drivers**, drivers having certain passengers, etc.). See Ex. 1006, ¶¶ [0007], [0046]. To this end, a **profile** comprises settings that may be restricted depending on who is in the vehicle, where the vehicle is, the time-of-day, etc. *Id.*, ¶¶ [0010] (“**settings** are chosen by a controlling authority”), [0036], [0045]-[0046]. *Rector* explains, the **settings** “at least in part, are set by a controlling authority, such as a parent or superior of the driver,” which may depend on his/her role vis-à-vis the controlling authority. *Id.*, ¶ [0031]. Thus, a **profile** reflects certain “permitted or prohibited **settings** for the [particular] **driver**.” *Id.*, ¶ [0043].

157. *Rector* explains that restrictions may be based on the number of occupants of the vehicle or “identity of a passenger.” *Id.*, ¶¶ [0044]-[0046]. For example, “if the passenger is the driver’s younger sibling, restrictions may be put in place to protect the younger sibling” which may include “limiting the maximum speed, blocking certain radio stations, etc.” *Id.*

158. *Rector* discloses several examples for various **roles**, such as **driving restriction settings** (“When . . . the child is driving, smart vehicle 100 **limits the maximum speed . . .**”), **location based settings** (“[A] parent may limit the function of the smart vehicle . . . so that his or her child is not tempted to skip class and drive off of **school grounds**.”), and **time based settings** (“The employer may set a

maximum volume level for employees in the settings for each employee, for the smart vehicle, for certain times, etc.”) (“[S]ettings may be based upon the time of day.”). *Id.*, ¶¶ [0032]-[0033], [0036].

159. Accordingly, in my opinion, *Rector* discloses this limitation.

E. Claim 13

13[a]: “The method of claim 1, wherein one or more of the settings are associated with systems of the vehicle, and the systems of the vehicle are configured to receive input or cause one or more actions or functions,”

160. I understand that claim 13 is not asserted against Petitioner.

Nevertheless, *Rector* discloses it.

161. *Rector* discloses that “[t]he settings may limit certain devices within the smart vehicle and/or the smart vehicle itself.” *Id.*, ¶¶ [0008], [0023]. Such systems (e.g., certain devices) include a radio, wireless communication device, or any other component for which limitation may reduce “distractions to the driver.” *Id.* A POSA would understand that such systems are configured to receive input or cause one or more actions or functions. For example, *Rector* discusses “disabling text messages,” limiting the driver from changing the radio volume or changing the radio station, or otherwise “limiting services offered by the network during the course of driving the smart vehicle.” *Id.*, ¶¶ [0034], [0043], [0059].

162. Accordingly, in my opinion, *Rector* discloses this limitation.

13[b]: “wherein the **systems include one or more of a door lock, a heating and cooling system, a speaker, an engine start/shut switch, a user interface, a button, a lever, a key, a graphical user interface (GUI), an electronic component of the vehicle, a telecommunications system, a remote face-to-face conferencing system, a mapping function system, a GPS system, a fingerprint scanner, a touch screen, a navigation system, a wireless communication system, a data encryption system, WiFi logic, Bluetooth logic, NFC logic, a microprocessor, a memory system, a camera, application programming interfaces (APIs) for vehicle systems, kernel level systems, function invoking systems, temperature detection systems, HVAC APIs, display screens, data network logic, mechanical systems, electrical systems, physical mechanical and electrical systems, seat mechanical systems, mirror systems, alarm systems, battery systems, battery, lighting systems, an application shared by mobile a device present and paired with the vehicle for providing at least one interface in a display screen of the vehicle, or vehicle electronics system.”**

163. *Rector* discloses one or more of the above-quoted alternatives, as discussed below. Similar elements are also discussed with respect to claim 14. *See infra*, VIII.F (discussing similar elements in claim 14).

164. For example, *Rector* discloses systems including “seat mechanical systems” or “mirror systems.” Ex. 1006, ¶ [0031] (“The driver created settings may include seat and mirror positions . . .”).

165. *Rector* also discloses systems including a “speaker.” *Id.*, (settings including “programmed radio stations,” and “radio controls”).

166. *Rector* also discloses systems including a “heating and cooling system.” *Id.*, (settings including “temperature controls”).

167. *Rector* also discloses systems including a “telecommunications system.” *Id.*, (settings including “wireless communication device controls”).

168. Accordingly, in my opinion, *Rector* discloses this limitation.

F. Claim 14

14: “The method of claim 1, wherein the plurality of settings include one or more of tracking settings, or use metrics settings, or comfort settings, or entertainment settings, or driving mode settings, or refuel routing settings, or purchase settings, or combinations of two or more thereof.”

169. *Rector* describes its settings as including “driver created settings as well as controlling authority settings” such as comfort settings (“seat and mirror positions, ... temperature controls, etc.”), entertainment settings (“programmed radio stations, ... radio controls, wireless communication device controls”), and driving mode settings (“maximum speed of smart vehicle 100”). *Id.*, ¶¶ [0031]-[0032], Fig. 11. *Rector* also discloses tracking settings (e.g., notifying the “controlling authority should the driver attempt to bypass or override the settings”). *Id.*, ¶ [0037].

170. Accordingly, in my opinion, *Rector* discloses this limitation.

G. Claim 15

15: “The method of claim 1, wherein the **profile stored in the storage is **accessible via a device using a connection to the Internet** and/or a vehicle interface of the vehicle, and the device is one of a portable device, or a computer.”**

171. *Rector* discloses that the **profile** (e.g., **settings**) is stored in the storage (e.g., **settings server 130 having a database 134**), and is **accessible via a device using a connection to the Internet** (e.g., **devices communicating with network 140**). *Id.*, ¶¶ [0030]-[0031], Fig. 1. *Rector* states, for example, that transmissions between smart vehicle 100, wireless communication device 120, and settings server 130 may occur over the Internet. *Id.*, ¶ [0031]. *Rector* also discloses that the device may be a portable device (e.g., a “wireless communication device”) (*id.*, ¶¶ [0024], [0026]) or a computer (e.g., a “personal computer”) (*id.*, ¶ [0032]).

172. Accordingly, in my opinion, *Rector* discloses this limitation.

H. Claim 16

16: “The method of claim 1, wherein the **user information includes one or more of sign-in credentials, or **biometrics** or face recognition data, or voice data, or **fingerprint data**, or eye-retina scan data, or a combination of two or more thereof.”**

173. *Rector* discloses the **user information** (e.g., **unique identifier**) includes at least one of the above-quoted alternatives, for example, **biometrics** or **fingerprint data**. *Id.*, ¶¶ [0046] (“**biometrics** may also be utilized to **determine the driver**”),

[0049] (“a **biometric identifier 514**, for instance, a **fingerprint scanner**”) (“the present invention uses this **biometric identifier** to associate the driver with a user account”), [0051] (“smart vehicle 600 including **biometric sensors**”). *Rector* also describes an embodiment in which CPU 502 of smart vehicle 500 “detect[s] the presence of and **unique identifiers** from any wireless communication devices” of a driver. *Id.*, ¶ [0048].

174. *Kleve* also teaches using **biometrics** to capture a user’s identity, Ex. 1007, ¶ [0071], and that user information includes **sign-in credentials** (e.g., login IDs and password), *id.*, ¶¶ [0037], [0049], [0063], [0069]. Such biometrics may be used by the vehicle to recognize a user and grant them access to the vehicle. *Id.*, ¶ [0059] (“An authorized temporary user may be any individual recognized by the vehicle 421 as an authorized user based on a matrix barcode, a fingerprint scan, an authorized code typed in a touchscreen, voice recognition, and the like.”).

175. One would have been motivated and found it obvious to have *Rector*’s user information include sign-in credentials or biometrics to improve security. *Rector* recognizes that biometrics could be used for security purposes, “such as starting the smart vehicle.” Ex. 1006, ¶ [0049]. *Kleve* teaches the extension of using remote credential verification at the vehicle by, for example, entering credentials (password) at the vehicle’s touchscreen, which improves security. Ex. 1007, ¶ [0049]. Combining *Rector* and *Kleve* amounts to combining familiar

elements according to known methods in a predictable way with a reasonable expectation of success. For example, as demonstrated by both *Rector* and *Kleve*, verification/authentication by biometrics is a known method, and has the predictable result of confirming that the user attempting to use the vehicle is who they purport to be. Ex. 1006, ¶¶ [0049]-[0052]; Ex. 1007, ¶¶ [0059]-[0073].

176. Accordingly, in my opinion, *Rector* and *Kleve* disclose, teach, or suggest every limitation of claim 16. It would have been obvious to combine *Rector* and *Kleve*, as explained above, and this combination renders claim 16 obvious.

I. Independent Claim 17

17[preamble]: “A cloud-based system including one or more data centers, and each data center of the cloud-based system includes one or more servers, wherein some of said one or more servers have program instructions for enabling connections with vehicles and providing services to vehicles, wherein one service includes enabling access to settings associated with profiles of user accounts of the cloud-based system, comprising:”

177. To the extent the preamble is found limiting, *Rector* discloses this limitation. For example, *Rector* discloses a cloud-based system including one or more data centers, and each data center of the cloud-based system includes one or more servers (e.g., “servers . . . placed at several logical points on [a] network”). Ex. 1006, ¶ [0027]. *Rector* states there may be a “complex of servers” to exploit

the functionality of connected devices and recognizes the concept of distributed computing. *Id.*, ¶¶ [0006], [0025]. Rector also explains that “[a] particular logic unit is not limited to a single logical location on the network.” *Id.* Also, Rector explains that one “server” can include others. *Id.*, ¶ [0027] (“A settings server can include several network elements, *including other servers* . . .”). Thus, *Rector* discloses “data centers” in at least the same level of detail as the ’244 patent. *See* Ex. 1001, 9:1-4 (“data centers that include multiple computing systems . . .”).

178. *Rector* also discloses its **servers** have **program instructions for enabling connections with vehicles and providing services to vehicles** (e.g., “logic” included in servers may “hav[e] the form of **instruction signals and/or data that may be applied to direct the operation of a processor**”), wherein one service includes **enabling access to settings associated with profiles of user accounts** (e.g., “the settings server including a **user account** . . . the **user account including permitted settings** for the user”). *See* Ex. 1006, Title, Abstract, ¶¶ [0009]-[0010], [0025], [0027], [0030]-[0033], [0043], [0059] (“limiting services offered by the network during the course of driving the smart vehicle”), Fig. 1.

179. Accordingly, in my opinion, *Rector* discloses this limitation.

17[a]: “receiving, by one of the servers, a request from a vehicle to access a profile for a user account associated with a user, the request identifies user

information related to [the] user;”

180. *Rector* discloses this limitation for at least the same reasons as claim element 1[a]. *See supra*, VIII.A. This limitation is different from element 1[a] only in that it is performed by “one of the servers” (like all the sub-elements of claim 17) and it specifies the user account being “associated with a user,” which *Rector* discloses, as discussed below.

181. *Rector* discloses “servers . . . placed at several logical points on the network,” and a “complex of servers” to exploit the functionality of connected devices. Ex. 1006, ¶¶ [0006], [0025], [0027]. *Rector*’s explanation of distributed computing (e.g., using assets of “several network elements” in “modern packet-based” networks to accomplish its processing) makes clear that some steps may be performed by one server among a complex. *Id.*, ¶ [0027].

182. *Rector* also discloses a request originating from a vehicle (e.g., smart vehicle 100), and which is received by one of the servers (e.g., settings server 130, which may be one server among the “complex”). *Id.*, ¶¶ [0008], [0023], [0025], [0030]. Such a request is to access a profile for a user account associated with the user (e.g., settings for the driver), and it identifies user information (e.g., a unique identifier) related to a user. *Id.*

183. Accordingly, in my opinion, *Rector* discloses this limitation.

17[b]: “processing, by one of the servers, at least part

of the user information to verify the access for the user, the profile having a plurality of settings of the user for the vehicle,⁶ at least part of the plurality of settings of the profile being stored on storage accessible to said one or more servers; and”

184. *Rector* and *Kleve* render this limitation obvious for at least the same reasons as claim element 1[b]. *See supra*, VIII.A. The superficial variations in language with element 1[b] do not affect its patentability in light of the prior art. For example, processing “by the server” in 1[b] is practically the same as “by one of the servers” in 17[b].

185. Also, for example, element 1[b] recites “processing, by the server, at least part of the user information to verify the user for accessing the profile associated with the user account, the profile having a plurality of settings of the user for the vehicle, at least part of the plurality of settings for the profile being stored on storage accessible to the cloud services system” (and omits the same language regarding “restricted” settings, which the COC attempts to add back in).

186. That is, instead of “verify the user for accessing the profile associated with the user account,” element 17[b] recites “verify the access for the user.” In my opinion, *Rector*’s teachings of its server “associat[ing] the unique identifier with the user account, [and then] determin[ing] the permitted settings for the user,” Ex.

⁶ The COC adds “and at least one of said plurality of settings being restricted for use on the vehicle,” Ex. 1002, 636, which *Rector* discloses as discussed above.

1006, ¶ [0009], claim 1, and *Kleve*'s teachings of performing remote credential verification and then providing enhancements/personal settings to the vehicle, including “radio presets,” Ex. 1007, ¶¶ [0049]-[0050], [0072], encompass “verifying the access for the user” and render this limitation obvious.

187. Accordingly, in my opinion, *Rector* and *Kleve* teach or suggest this limitation.

17[c]: “transferring, by one of the servers, upon verification of the user information, one or more settings of the plurality of settings to⁷ the vehicle,”

17[d]: “the transferring is configured to instruct software and hardware associated [with] the vehicle to enable said one or more settings for use on the vehicle to customize said vehicle for the user,”

188. *Rector* and *Kleve* render these limitations obvious for at least the same reasons as claim elements 1[c]-1[d]. *See supra*, VIII.A. Additionally, *Rector* discloses enabling one or more settings of the plurality of settings for use on the vehicle to customize the vehicle. Ex. 1006, ¶¶ [0031]-[0033] (explaining that “driver created settings may include . . . programmed radio stations,” while the controlling authority may set “allowed radio stations, prohibited radio stations, . . . etc.”).

⁷ The COC adds “storage of” (the vehicle), Ex. 1002, 636, which *Rector* discloses as discussed above.

189. Accordingly, in my opinion, *Rector* and *Kleve* teach or suggest these limitations.

17[e]: “the request and the transferring being via wireless communication of said vehicle.”

190. *Rector* discloses this limitation for at least the same reasons as claim element 1[e]. *See supra*, VIII.A. Element 1[e] recites “wherein the vehicle uses wireless communication for exchanging data with the cloud services system and for receiving said one or more settings for the profile.” *Rector*’s disclosure discussed above, which meets element 1[e] and also meets element 17[e]. For example, *Rector* discloses “[c]lient logic 205 retrieves the unique identifier from the driver’s wireless communication device and associates the identifier with a plurality of driver settings. These driver settings may be contained on memory 204, may be contained on an external server, may be contained on the driver’s wireless communication device, etc.” Ex. 1006, ¶ [0040]. A POSA would understand that the request (e.g., the request originating from smart vehicle 100) and the transferring (of one or more settings) would be via wireless communication of the smart vehicle. The various separate components (e.g., driver’s device, server, smart vehicle) being located physically apart from one another would use wireless communication to accomplish the transmission of information between them (e.g., the request and settings).

191. Accordingly, in my opinion, *Rector* discloses this limitation.

192. In sum, *Rector* and *Kleve* disclose, teach, or suggest every limitation of claim 17. It would have been obvious to combine *Rector* and *Kleve*, as explained above, and this combination renders claim 17 obvious.

J. Claim 19

19[a]: “The cloud-based system of claim 17, wherein the vehicle is configured to use the one or more settings for the vehicle while the profile is active in the vehicle, and”

193. *Rector* alone, or together with *Kleve*, discloses, teaches, or suggests this limitation for at least the same reasons as claim 11. *See supra*, VIII.C.

19[b]: “said one or more settings are removed when the profile is no longer active in the vehicle, and”

194. Although *Rector* does not explicitly disclose removal of settings when the profile is no longer active in the vehicle, this feature would have been obvious in view of *Rector* and *Kleve*. A POSA would have been motivated and found it obvious to remove *Rector*’s settings to improve security, as taught by *Kleve*. *Kleve* teaches that “[a]ny personal settings or private information entered onto or within the VCS [vehicle-based computing system] by the Temporary User may be reset after the schedule rental period has been complete[d] at step 630.” Ex. 1007, ¶ [0074]. *Kleve* also teaches “[o]nce the Temporary User has completed the rental period and returned the vehicle to the appropriate drop off, the virtual key may

terminate allowing the system to reset any private information stored on the vehicle-based computing system.” *Id.*, ¶ [0049]; *see also id.*, ¶¶ [0055], [0068]. A POSA would understand that users may have concerns about leaving sensitive information (e.g., personalized settings, entertainment selections, email or text messages, etc.) behind in a vehicle that other users may use, and it would be desirable to have such information be cleared from the vehicle when they are done using it. Furthermore, it would have been an obvious and standard business practice of a vehicle rental system to remove personalization and return the state of the vehicle to default settings upon completion, for example, so that the next user is not confronted with settings that may be undesirable (e.g., loud radio) or not appropriate for them (e.g., seat and steering wheel too close together such that a larger individual finds it uncomfortable to enter the vehicle).

195. Combining *Rector* and *Kleve* amounts to combining familiar elements according to known methods in a predictable way with a reasonable expectation of success, as demonstrated by *Kleve*.

196. Accordingly, in my opinion, *Rector* and *Kleve* teach or suggest this limitation.

19[c] “wherein the request is processed automatically by the vehicle upon a pairing of a user device or input by the user of credentials.”

197. *Rector* and *Kleve* render this limitation obvious for at least the same

reasons as claim 9. *See supra*, VIII.B. For example, claim 9 recites “wherein the request is automatically generated by the electronics of the vehicle upon detecting a pairing with a user device of the user, or input of credentials of the user for the user account.” *Rector* and *Kleve*’s teachings of handling the request (e.g., unique identifier) encompass the automatic “process[ing]” or “generat[ing]” of the request. *Id.* Furthermore, *Rector* and *Kleve*’s teachings of triggering the handling of the request upon pairing with the user device encompass the “pairing” or detection thereof. *Id.* Whether it is the detection of pairing (as in claim 9), or the actual pairing (as in claim 19) that triggers the handling of the request, the teachings of *Rector* and *Kleve* cover these elements. Also, *Kleve*’s teachings of handling a request upon input of credentials (or detection thereof) are similarly applicable. *See id.* Thus, in my opinion, *Rector* and *Kleve* render this limitation obvious.

198. Accordingly, in my opinion, *Rector* and *Kleve* teach or suggest this limitation.

199. In sum, *Rector* and *Kleve* disclose, teach, or suggest every limitation of claim 19. It would have been obvious to combine *Rector* and *Kleve*, as explained above, and this combination renders claim 19 obvious.

K. Claim 20

20[a]: “The cloud-based system of claim 17, wherein one or more of the **settings are associated with **systems** of the vehicle, and the **systems** of the vehicle are configured to receive input or cause one or more actions or functions,”**

200. *Rector* discloses this limitation for at least the same reasons as element 13[a]. *See supra*, VIII.E.

201. Accordingly, in my opinion, *Rector* discloses this limitation.

20[b]: “wherein the **systems include one or more of a door lock, a heating and cooling system, a speaker, an engine start/shut switch, a user interface, a button, a lever, a key, a graphical user interface (GUI), an electronic component of the vehicle, a telecommunications system, a remote face-to-face conferencing system, a mapping function system, a GPS system, a fingerprint scanner, a touch screen, a navigation system, a wireless communication system, a data encryption system, WiFi logic, Bluetooth logic, NFC logic, a microprocessor, a memory system, a camera, application programming interfaces (APIs) for vehicle systems, kernel level systems, function invoking systems, temperature detection systems, HVAC APIs, display screens, data network logic, mechanical systems, electrical systems, physical mechanical and electrical systems, seat mechanical systems, mirror systems, alarm systems, battery systems, battery, lighting systems, an application shared by mobile a device present and paired with the vehicle for providing at least one interface in a display screen of the vehicle, or vehicle electronics system.”**

202. *Rector* discloses one or more of the above-quoted alternatives for at least the same reasons as claim 13[b]. *See supra*, VIII.E.

203. Accordingly, in my opinion, *Rector* discloses this limitation.

IX. GROUND 2: OBVIOUSNESS OF CLAIMS 2, 4, 10, AND 18 IN VIEW OF *RECTOR*, *KLEVE*, AND *YASSIN*

204. The features of claims 2, 4, 10, and 18 were well-known in the art, as evidenced by, e.g., *Rector*, *Kleve*, and *Yassin*.

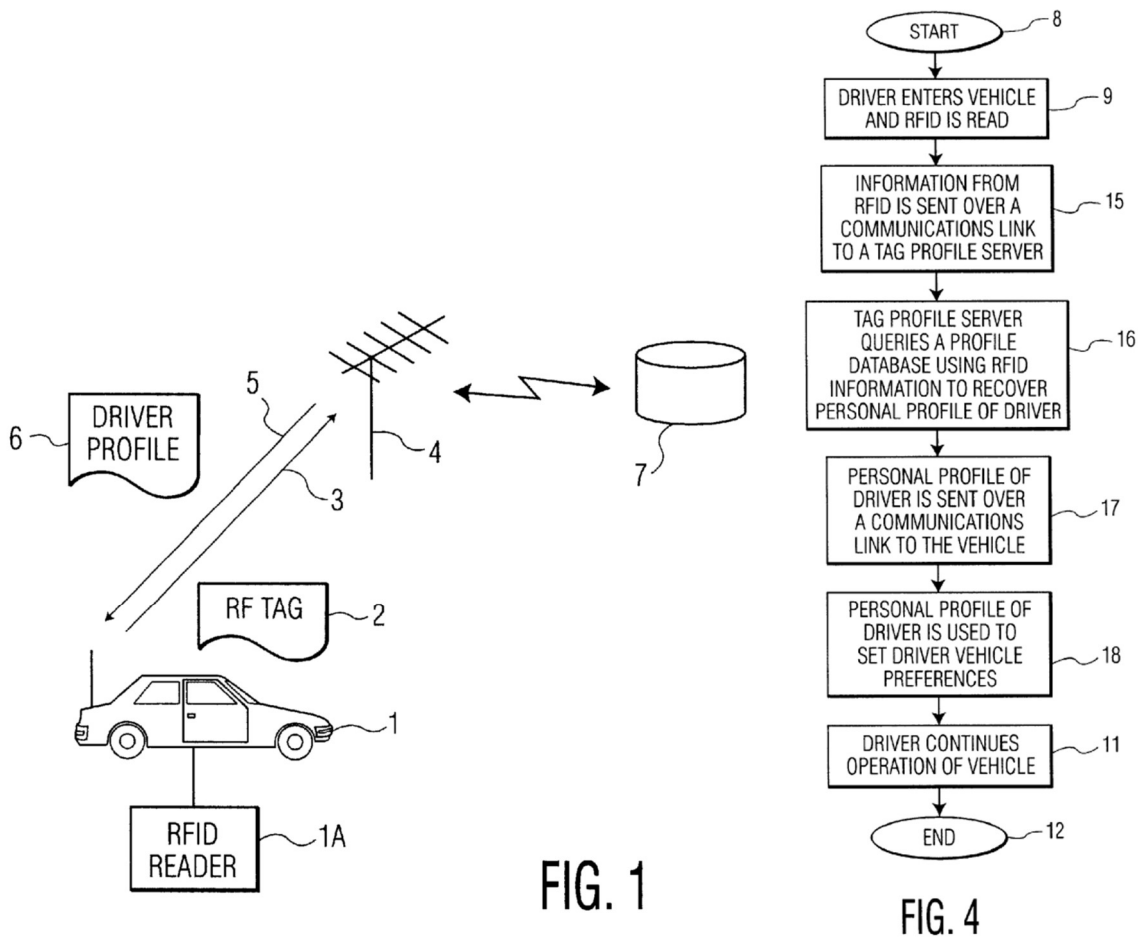
205. As explained above with respect to ground 1, *Rector* and *Kleve* render obvious the limitations of claims 1, 9, 11-17, 19, and 20. To further reinforce the notion that claims of the '244 patent are unpatentable in view of the prior art, it is my opinion that it would have been obvious to combine *Rector* (as may be modified by *Kleve*) and *Yassin*, and doing so would consequently yield the features of the profile being transferrable or applied to one or more “other vehicles,” and determining to update settings. Additionally, one would have been motivated and found it obvious to combine *Yassin* with *Rector* (as may be modified by *Kleve*) for the explicitly stated reason in *Yassin*—to “provide[] settings with a minimum of driver intervention.” Ex. 1008, 2:39-41, 4:64-65.

A. Overview of *Yassin*

206. *Yassin*, entitled “Personalize Vehicle Settings Using RF Tags,” is directed to methods and systems for programming a user’s personalized settings for adjustable components of a vehicle via wireless communication. *Id.*, Title, Abstract. *Yassin* discloses a process involving identifying a user, querying a profile

database to access a personal profile of the user based on that identification, and setting at least one adjustable component of the vehicle based upon the personalized settings from the personal profile. *Id.*

207. *Yassin* explains its invention “allows selecting the vehicle to be used by the user from a plurality of vehicles” and that “[t]hese vehicles may be of either similar or different type” yet are still capable of applying the settings that may be retrieved from a server. *Id.*, 3:24-40; 6:65-67. As shown throughout *Yassin*, settings stored in a “profile database remotely located from the vehicle” may be wirelessly communicated to multiple vehicles via a “communications link between the vehicle and the profile database.” *Id.*, 3:54-57; Figs. 1, 4 (below).



Figs. 1 and 4 of Yassin

208. *Yassin* also discloses an embodiment in which changes made to adjustable components of the vehicle while the driver is using the vehicle are communicated to a server and saved. *Id.*, 6:10-21, 7:9-21. For example, with the driver's profile applied, "[t]he driver continues to operate the vehicle 11, during which time the driver can alter various settings." *Id.*, 6:14-17. The driver's changes to his/her settings/profile are communicated to the server and the "server updates the profile database for the driver." *Id.*, 7:9-21. An example of this is depicted in

Fig. 5B, below.

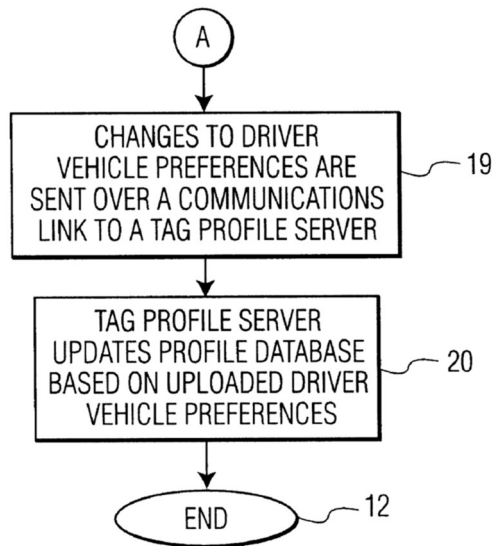


FIG. 5B

Fig. 5B of *Yassin*

B. A POSA would have combined the teachings of *Rector*, *Kleve*, and *Yassin*

209. A POSA would have found it obvious to combine the method made obvious by *Rector* and *Kleve* (e.g., method of managing profiles and vehicle settings) and *Yassin*'s method of personalizing vehicle settings in multiple vehicles, and a POSA would have been motivated to do so for several reasons. Furthermore, a POSA would have had a reasonable expectation of success in doing so, given that it would merely entail extending *Rector*'s method to more use cases.

1. Claim 2

210. A POSA would have considered the teachings of *Yassin* for improving the method made obvious by *Rector* and *Kleve*. To the extent Patent Owner may argue that *Rector* does not explicitly disclose “the **profile** of the user is **transferrable to one or more other vehicles** from the **cloud services system**,” as recited in claim 2, this feature would have been obvious. *Rector* recognizes that settings could be applied to multiple “cars, trucks, and buses,” and doing so would be desirable for maximizing its stated goal of enhancing safety (i.e., allowing application of customized settings to more vehicles). Ex. 1006, ¶¶ [0004]-[0007], [0028]. It was well-known in the art, at the time of the ’244 patent, for cloud services systems to transfer a driver’s settings to multiple vehicles, as demonstrated by *Yassin*, which would provide more opportunities for reducing distractions and enhancing safety. Ex. 1008, 3:24-40, 3:54-57, 6:60-67, Figs. 1, 4.

211. Furthermore, implementing the transferring of settings to multiple vehicles, as in *Yassin*, in the method made obvious by *Rector* and *Kleve* would require little more than combining prior art elements in known ways to obtain the predictable result of enhancing safety as taught by *Yassin*. *Id.*, 2:30-41, 4:64-65. A POSA would have had a reasonable expectation of success doing so because *Yassin* demonstrates that one could apply a profile to “a plurality of vehicles” which “may be of either similar or different type.” *Id.*, 3:24-28. Combining *Yassin*

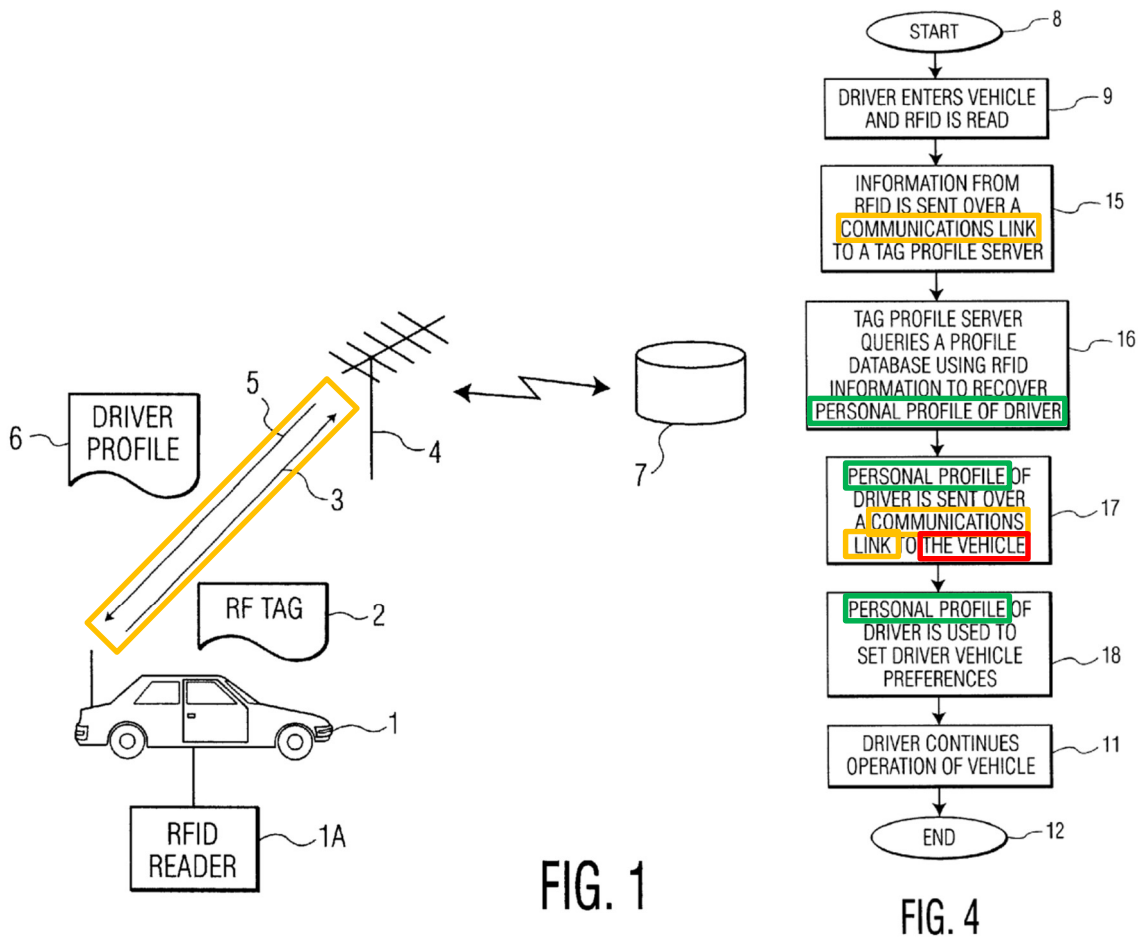
with *Rector* (as may be modified by *Kleve*) would have the predictable result of reducing driver distractions in more instances, thus improving safety.

212. Additionally, both *Rector* and *Yassin* are analogous art to the claimed invention of the '244 patent because the references are (1) from the same field of endeavor as the claimed invention (i.e., applying settings to vehicles based on user profiles); and/or (2) the references are reasonably pertinent to the problem faced by the inventor (i.e., improving application of settings to vehicles). For example, *Rector* illustrates the importance of automobile safety, pointing out the risks of driver distractions, and aspiring to reduce such distractions by “plac[ing] restrictions or otherwise creat[ing] settings for the driver.” Ex. 1006, ¶¶ [0004]-[0007]. *Yassin* recognizes the same problem and endeavors to solve it in a similar way, e.g., by providing settings with a minimum of driver intervention. Ex. 1008, 2:30-41, 4:64-65. Both *Rector* and *Yassin* recognize the benefit of enhanced safety by transmitting and automatically applying user settings to a vehicle. Furthermore, both *Rector* and *Yassin* describe “settings” as including multimedia settings, such as preferred radio stations. Ex. 1006, ¶¶ [0008], [0023]; Ex. 1008, 1:58-67, 5:56-65.

2: “The method of claim 1, wherein the **profile of the user is **transferrable to one or more other vehicles** from the **cloud****

services system.”

213. *Yassin* discloses “sending information regarding the personalization of vehicles **settings**” to **multiple vehicles**. Ex. 1008, 1:6-11; 3:24-40; 4:48-54. *Yassin* explains that an embodiment of its invention “allows selecting the vehicle to be used by the user from **a plurality of vehicles**” and that “[t]hese vehicles may be of either similar or different type” yet are still capable of applying the **settings** that may be **retrieved from a server**. *Id.*, 3:24-40, 6:60-67. As shown throughout *Yassin*, **settings** stored in a “profile database remotely located from the vehicle” may be communicated to **multiple vehicles** via a “communications link between the vehicle and the profile database.” *Id.*, 3:54-57, Figs. 1, 4 (below).



Annotated Figs. 1 and 4 of Yassin

214. Accordingly, in my opinion, *Rector*, *Kleve*, and *Yassin* teach or suggest this limitation of claim 2. *Rector*, *Kleve*, and *Yassin* thus disclose, teach, or suggest every limitation of claim 2. It would have been obvious to combine *Rector*, *Kleve*, and *Yassin* as explained above, and this combination renders claim 2 obvious.

2. Claim 4

215. A POSA would have considered the teachings of *Yassin* for improving the method made obvious by *Rector* and *Kleve*. To the extent Patent Owner may argue that *Rector* does not explicitly disclose “receiving, by the server, communication from the vehicle regarding inputs made to systems of the vehicle during use of the vehicle while the vehicle is associated with the profile of the user account,” as recited in claim 4, this feature would have been obvious. *Rector* recognizes that a driver would make changes to settings by making inputs to systems of the vehicle during use while the profile is in place. Ex. 1006, ¶ [0043] (for example, attempting to change the radio station or volume), ¶ [0049] (“adjusting the seat back/position/mirrors”), ¶ [0059] (“when the settings are in place” adjustments may be allowed or blocked). It would have been obvious to combine *Rector*, *Kleve*, and *Yassin* for multiple reasons.

216. For example, for reasons similar to those discussed above with respect to claim 2, one would have been motivated to further reduce driver distractions, as discussed by both *Rector* and *Yassin*. *Id.*, ¶¶ [0004]-[0007]; Ex. 1008, 2:30-46. One would have sought to improve the convenience and safety of *Rector* by capturing a user’s changes to his/her settings made during use and communicating them to a server, as taught by *Yassin*, which would have the predictable result of carrying forward the driver’s changed settings and further reducing driver distractions (i.e., preventing the need for the driver to adjust components to implement his changed

settings the next time he uses the same or a different vehicle). The level of discloses in both *Rector* and *Yassin*, for example, would provide support to a POSA for how the combination could be implemented.

217. One would have had a reasonable expectation of success doing so because *Yassin* explains its methods are broadly applicable, Ex. 1008, 4:55-5:5, and *Yassin* demonstrates that its methods are usable to set desired settings “whenever” or wherever the driver choses to drive, *id.*, 6:65-7:8.

218. Furthermore, one would have immediately recognized that when a driver makes changes to his/her settings, it would be inconvenient and distracting to require the driver to adjust the vehicle to reproduce those settings each time he/she were to operate a vehicle. One would have looked to *Yassin* for its teachings of capturing a user’s changes to his/her settings and communicating them to a server, precisely for the reason that *Yassin* explains—to minimize “driver intervention.” *Id.*, 2:39-46 (“It would also be desirable to provide these settings with a minimum of driver intervention.”), 4:64-65 (“It also advantageously provides these settings with a minimum of driver intervention.”).

219. Implementing the saving of changed settings, as in *Yassin*, in the method made obvious by *Rector* and *Kleve* would require little more than combining prior art elements in known ways to obtain the predictable result of

reducing distractions and enhancing safety as taught by both *Rector* and *Yassin*.

Ex. 1006, ¶¶ [0004]-[0007]; Ex. 1008, 2:30-41, 4:64-65.

4[a]: “The method of claim 1, further comprising: receiving, by the server, communication from the vehicle regarding inputs made to systems of the vehicle during use of the vehicle while the vehicle is associated with the profile of the user account;”

220. *Yassin* discloses that inputs (e.g., changes) made to adjustable components of the vehicle (while the driver is using the vehicle) are communicated to a server. Ex. 1008, 6:10-21, 7:9-21. For example, with the driver’s profile applied, “[t]he driver continues to operate the vehicle 11, during which time the driver can alter various settings.” *Id.*, 6:16-18. Then, *Yassin* teaches, the driver’s changes to his/her settings/profile are communicated to the server and the “server updates the profile database for the driver.” *Id.*, 7:9-21. An example of this is depicted in Fig. 5B, below.

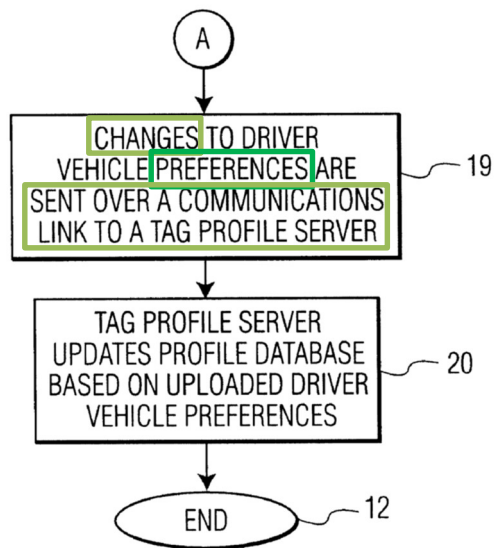


FIG. 5B

Annotated Fig. 5B of *Yassin*

221. Accordingly, in my opinion, *Rector*, *Kleve*, and *Yassin* teach or suggest this limitation of claim 4.

4[b]: “determining, by the server, based on the inputs made to systems of the vehicle that at least one of the plurality of settings of the profile is to be updated.”

222. A POSA would have been motivated and found it obvious to modify the method made obvious by *Rector* and *Kleve* to determine the profile is to be updated, as in *Yassin*, for at least the same reasons discussed above. *See supra*, IX.B.2. A POSA would have a reasonable expectation of success in modifying the references because determining to update the profile would be what naturally

follows receiving communication regarding “inputs,” as in element 4[a] (e.g., changes to settings). *Id.* A POSA would have recognized that once the alterations/changes to various settings made by the user (as in *Yassin*) were communicated to the server, the natural use for them would be to update the user’s profile, which is a predictable result. It follows, also, that a POSA would have had a reasonable expectation of success in combining *Rector*, *Kleve*, and *Yassin* in this way, which is merely a combination of known elements according to known methods to yield predictable results. Thus, having combined *Yassin* with *Rector* and *Kleve* in the manner explained above with respect to element 4[a], the features of element 4[b] would also be met. For example, *Yassin* discloses that a [server \(profile tag server 15\)](#) [determines](#) that at least one of the [settings](#) of the profile (e.g., at least one of “[various settings](#)”) is to be [updated](#) (e.g., “[the profile tag server updates the profile database for the driver, based on the updated driver vehicle preferences 20](#)”). Ex. 1008, 6:16-18, 7:19-21.

223. *Yassin* discloses that updates are made “to reflect any driver [preference changes](#) made by the driver.” *Id.*, 6:10-12. This occurs while the driver “continues to operate the vehicle, during which time the driver can alter [various settings](#),” which may include “[seat positioning, air temperature, or any other settings or combinations of settings](#).” *Id.*, 6:13-21.

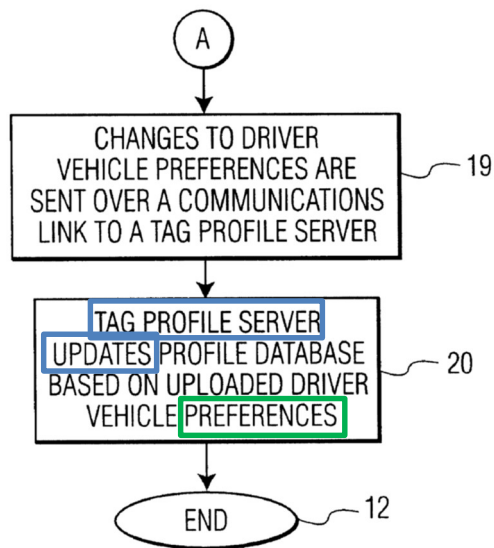


FIG. 5B

Annotated Fig. 5B of *Yassin*

224. Accordingly, in my opinion, *Rector*, *Kleve*, and *Yassin* teach or suggest this limitation of claim 4.

225. *Rector*, *Kleve*, and *Yassin* thus disclose, teach, or suggest every limitation of claim 4. It would have been obvious to combine *Rector*, *Kleve*, and *Yassin* as explained above, and this combination renders claim 4 obvious.

3. Claim 10

10: “The method of claim 1, wherein the **profile is configured for application in other vehicles.”**

226. *Rector*, *Kleve*, and *Yassin* render the additional limitation of claim 10 obvious for at least the same reasons as claim 2, which recites nearly the same

limitation. *See supra*, IX.B.1. Claim 2 recites “wherein the profile of the user is transferrable to one or more other vehicles from the cloud services system.” *Rector*, *Kleve*, and *Yassin*’s teachings of sending information regarding the personalization of vehicles settings to multiple vehicles encompass the profile being “transferrable to” or “configured for application in” other vehicles.

227. Accordingly, in my opinion, the combination of *Rector*, *Kleve*, and *Yassin* renders claim 10 obvious.

4. Claim 18

18: “The cloud-based system of claim 17, wherein the profile is transferrable to one or more other vehicles.”

228. *Rector*, *Kleve*, and *Yassin* render the additional limitation of claim 18 obvious for at least the same reasons as claim 2. *See supra*, IX.B.1.

229. Accordingly, in my opinion, the combination of *Rector*, *Kleve*, and *Yassin* renders claim 18 obvious.

X. GROUND 3: OBVIOUSNESS OF CLAIMS 5-7 IN VIEW OF *RECTOR*, *KLEVE*, *YASSIN*, AND *PATENAUDE*

A. Overview of *Patenaude*

230. *Patenaude*, entitled “Method of Determining and Predicting Entertainment Selections for Telematics Unit,” discloses a method for providing entertainment in a vehicle, including monitoring entertainment selections at a telematics unit, determining a user entertainment selection profile based on that

monitoring, and automatically activating entertainment units based on the profile. Ex. 1009, Title, Abstract. *Patenaude* identifies limitations of the then-current art, which could not “predict a user’s entertainment selections, such as a radio station on an FM radio or a compact disc track of a CD in a CD player.” *Id.*, ¶ [0004]. To this end, *Patenaude* endeavors to “determine and predict entertainment selections” by learning a user’s preferences and developing an “entertainment selection profile” for that user. *Id.*, ¶ [0001]. *Patenaude* discloses an “algorithm” to determine patterns in user entertainment selections. *Id.*, ¶¶ [0055]-[0058]. Thus, *Patenaude* discloses a “learning engine.”

231. *Patenaude* describes embodiments in which a telematics unit in a vehicle “monitors entertainment selections” made by the user while operating the vehicle. *Id.*, ¶ [0042]. The monitored selections are used to learn and develop a “user entertainment selection profile.” *Id.*, ¶ [0049]. The user entertainment selection profile may be based not only on the user’s selections, but also other factors such as number and location of passengers in the vehicle, vehicle location, and time-of-day. *Id.*, ¶¶ [0044], [0054]. *Patenaude* states, for example, that an “algorithm searches the acquired data to determine if the FM radio is tuned to the same received FM frequency signal within a specified time frame each weekday for the specific user.” *Id.*, ¶ [0070]. The method may determine that a certain “FM radio station is selected every weekday between 5:15 PM and 5:50 PM.” *Id.*,

¶ [0057].

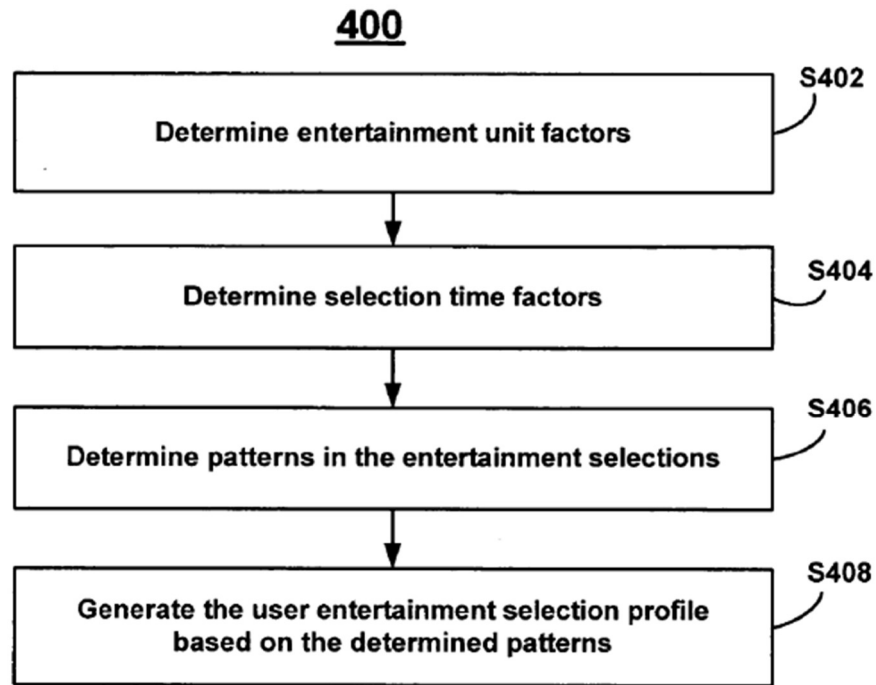


FIG. 4

Fig. 4 of *Patenaude*

232. Based on patterns learned from the user's entertainment selections, the method may automatically apply certain settings to the vehicle. For example, the method may, upon starting up and identifying a user, retrieve a "user-specific entertainment selection profile" and transmit a signal to entertainment units to operate in accordance therewith. *Id.*, ¶ [0074]. *Patenaude* explains it is desirable to predict and automatically apply personalized settings via such a system. *Id.*, ¶¶ [0002]-[0005].

B. A POSA would have combined the teachings of *Rector* and *Patenaude*

233. A POSA would have found it obvious to modify *Rector*'s method of managing profiles and vehicle settings (as may be modified by *Kleve* and *Yassin*) with *Patenaude*'s method of predicting user preferences and settings, and a POSA would have been motivated to do so for several reasons.

234. For example, one would look to *Patenaude* to improve the user experience of *Rector* (as may be modified by *Kleve* and *Yassin*), and would have had a reasonable expectation of success in doing so. Initially, *Rector* itself aims to improve the user experience of vehicle drivers, explaining that it seeks to address the need for providing means to automatically identify a driver and apply settings for the driver. Ex. 1006, ¶¶ [0001]-[0007]. *Rector* endeavors to reduce distractions and lower the risks of car crashes (which may be caused by a driver's inexperience in operating the vehicle). *Id.*, ¶¶ [0004]-[0005]. *Rector* remarks that present-day technology (at the time, 2009) has the potential to alleviate distractions because the connectivity and ubiquity of microelectronic devices could be further exploited. *Id.*, ¶ [0006]. *Rector* explains that its invention addresses these issues by automatically applying customized settings to vehicles. *Id.*, ¶ [0008]. Such settings include audio, radio, other multimedia, and entertainment settings. *See id.*, ¶¶ [0023], [0031], [0033]-[0035], [0042], [0043], [0045], [0046], [0059].

235. In attempting to further improve on *Rector*, it would have been natural to look toward one of the known techniques in the prior art. *Patenaude*, for example, demonstrates one such way of extending the usability and convenience of a system that automatically sets automobile system settings, such as audio and other multimedia settings. *See* Ex. 1009, ¶¶ [0001]-[0005].

236. In the state of the art existing at the time of the alleged invention of the '244 patent, performing data analytics to better understand user behavior was a well-recognized technique. As exemplified by *Patenaude*, making predictions of a user's selections based on their past behavior was one such known technique. *Id.* By the date of the alleged invention of the '244 patent, "know your customer," for example, was a common mantra. Creating a customized/personalized user experience based on learned information and behaviors was commonplace by this timeframe. Extending such functionality to *Rector* would have been obvious.

237. It would have been obvious to combine *Rector*, *Kleve*, *Yassin*, and *Patenaude* for multiple reasons. For example, a POSA would have been motivated to further improve the method of *Rector* (as may be modified by *Kleve* and *Yassin*), which aims to reduce distractions and improve convenience, by implementing the learning engine of *Patenaude*, which *Patenaude* explains provides the improvement of being able to automatically predict and apply user settings. Ex. 1006, ¶¶ [0004]-[0007]; Ex. 1009, ¶¶ [0001]-[0005]. Additionally, one would have

had a reasonable expectation of success because such modification would entail a minor software adjustment. For example, it was well-known in the art for a computerized system to learn a vehicle user's preferences and apply them before using the vehicle (e.g., upon "power-up"), as demonstrated by *Patenaude*. Ex. 1009, ¶¶ [0001]-[0005], [0043]-[0046], [0053], [0060]-[0078]. A POSA would understand how a computer program could be made to run upon starting, activating, or powering up the vehicle. Also, a POSA would have been motivated to have the pattern determination occur on a server for several reasons. For example, having the processing occur server-side would save resources for computing systems on the vehicle. Ex. 1009, ¶¶ [0055]-[0062]; *see also supra*, ¶¶ 120-122. This means that processing load could be distributed in more optimal ways, freeing up the vehicle telematics unit for performing more driving-centric tasks like navigation. Additionally, one may have looked to server-side operations for applying more centralized rules/policies for determining patterns in a user's patterns, making the user experience more streamlined across a wide variety of different vehicles that the user may operate. Also, one may have looked to server-side operations to allow the determined entertainment selection profile to be more easily applied to other vehicles because it may reside on a centralized hub, rather than requiring communication from vehicle-to-vehicle, or vehicle to other intermediary components before being transferred to the current vehicle the user is

operating. A POSA would have a reasonable expectation of success in moving such processing to the server because, as the prior art demonstrates, a server is capable of various processing tasks. *See, e.g.*, Ex. 1007, ¶ [0035] (explaining that certain processes “may be executed by a computing system in communication with a vehicle computing system” such as “a server”).

238. A POSA would have been guided by *Rector*, which aims to reduce driver distractions, to look to *Patenaude*, which provides another opportunity to reduce distractions by way of automatically applying learned settings divined from the user’s patterns of use. Ex. 1009, ¶¶ [0055]-[0062]. Adding *Patenaude*’s learning engine would have the predictable result of enhancing the functionality of *Rector* to learn a user’s patterns and predict their setting changes (e.g., predicted radio station changes), without requiring the user to repeatedly make those changes (thereby further reducing distractions).

239. Additionally, it would have been obvious to perform the “learning” taught by *Patenaude* on the server-side (as in *Kleve*, or *Yassin*) because it would allow processing to take place at a remote location, saving resources for computing systems on the vehicle. *See* Ex. 1007, ¶ [0035] (explaining that certain processes “may be executed by a computing system in communication with a vehicle computing system” such as “a server”). Also, *Yassin* teaches that the “profile database . . . *preferably* will be maintained externally.” Ex. 1008, 5:40-42. That is,

Yassin would have guided a POSA to consider having a profile database maintained on a server. Such maintenance would include performing the “learning” processing.

240. Furthermore, *Patenaude* is also analogous art to the claimed invention of the '244 patent because it is (1) from the same field of endeavor as the claimed invention (i.e., applying settings to vehicles based on user profiles); and/or (2) the references are reasonably pertinent to the problem faced by the inventor (i.e., improving application of settings to vehicles). For example, *Patenaude* describes efforts to overcome limitations in prior systems that did not automatically apply user settings to vehicle entertainment units. Ex. 1009, ¶¶ [0001]-[0005]. *Rector* and *Patenaude* (and *Kleve* and *Yassin*) recognize the benefit of improved convenience by automatically applying a user's desired settings, which include multimedia settings. Ex. 1006, ¶¶ [0023], [0031], [0033]-[0035], [0042], [0043], [0045], [0046], [0059]; Ex. 1009, ¶¶ [0001]-[0005].

1. Claim 5

5: “The method of claim 4, further comprising: processing by a **learning engine that uses the **inputs** made to the systems of the vehicle to find **patterns** in use of the systems of the vehicle while the profile was used with the vehicle.”**

241. It would have been obvious to add a “learning engine” to the method made obvious by *Rector*, *Kleve*, and *Yassin*. *Rector* discusses automatically

applying settings for a vehicle, which is desirable for enhancing convenience and reducing preventable distractions. Ex. 1006, ¶¶ [0001]-[0008]. It was well-known in the art for a computerized system to learn a vehicle user's preferences (by determining/finding patterns) and apply them before using the vehicle (e.g., upon “power-up”), as demonstrated by *Patenaude*. Ex. 1009, ¶¶ [0001]-[0005], [0043]-[0046], [0053], [0060]-[0078]. Furthermore, implementing the learning engine of *Patenaude* in the method of *Rector* would require little more than combining prior art elements in known ways to further enhance convenience as taught by *Patenaude. Id.* Such combination would also naturally result in the elements of claims 5-7 being met in the method made obvious by *Rector, Kleve, Yassin, and Patenaude.*

242. Specifically, *Patenaude* discloses a method of determining a user's **entertainment selection profile** in a vehicle. *Id.*, ¶ [0051]. As shown and described with reference to Fig. 4 (and other embodiments), a telematics unit “determines **patterns** in the **entertainment selections**” of a user. *Id.*, ¶ [0055]. These are based on setting modifications by the user. *See id.*, ¶ [0056]. “After a minimum number of **entertainment unit factors** and

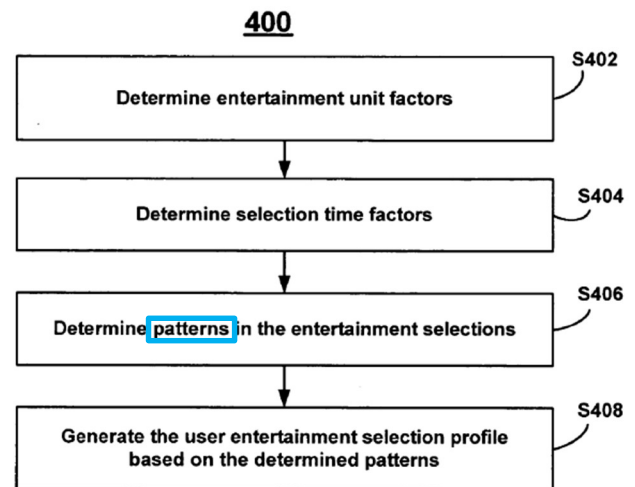


FIG. 4

selection time factors are stored in the in-vehicle memory 128 for the specific user, the processor 122 applies an algorithm on the stored entertainment unit factors and selection time factors.” *Id.*, ¶ [0069]. *Patenaude* explains that entertainment unit factors are user inputs that include one or more of “a satellite radio unit code, an AM radio unit code, an FM radio unit code, . . .” and so on. *Id.*, ¶ [0052]. Selection time factors further describe the setting modifications and include “time of day of the entertainment selection, a day of week of the entertainment selection, a week of month of the entertainment selection, and a date of the entertainment selection.” *Id.*, ¶ [0054].

243. Furthermore, it would have been obvious to have *Patenaude*’s processing to determine patterns occur on a server because it would reduce processing load on the vehicle telematics unit, and allow the determined entertainment selection profile to be more easily applied to other vehicles, among other reasons, as discussed above. *See supra*, X.B. This is consistent and supported by the teachings of *Yassin*, which explains that “any changes made to the driver’s vehicle preferences are sent over the communications link to the profile tag server.” Ex. 1008, 7:11-14, Fig. 5B. Also, *Yassin* teaches that the “profile database . . . preferably will be maintained externally.” *Id.*, 5:40-42. Indeed, in the method made obvious by *Rector*, *Kleve*, and *Yassin*, as discussed above with reference to claim 4, inputs (e.g., changes) made to systems of the vehicle are communicated to

the server, and thus, it follows that the claimed “processing by the learning engine” (as recited in claim 5) would also occur at the server, and a POSA would have a reasonable expectation of success effectuating this for at least the same reasons discussed above with respect to claim 4. *See supra*, IX.B. With the changes having been communicated to the server, it makes logical sense that a learning engine (like in *Patenaude*) would process them there.

244. Accordingly, in my opinion, *Rector*, *Kleve*, *Yassin*, and *Patenaude* teach or suggest this limitation. *Rector*, *Kleve*, *Yassin*, and *Patenaude* thus disclose, teach, or suggest every limitation of claim 5. It would have been obvious to combine *Rector*, *Kleve*, *Yassin*, and *Patenaude* as explained above, and this combination renders claim 5 obvious.

2. Claim 6

6: “The method of claim 5, further comprising: sending, by the server, a **recommended setting to the user account, the recommended setting is based on processing by the learning engine and said recommended setting is **applied to the vehicle when the vehicle is used with the profile** or is applied to the vehicle upon receiving acceptance of the recommended setting via the user account.”**

245. Further to claim 5, *Patenaude* discloses the above quoted limitation. In combining *Patenaude* with *Rector* (and *Kleve*, and *Yassin*) as discussed above with respect to claim 5, implementing *Patenaude*’s learning engine would have naturally entailed sending (separate from the “at least one of said plurality of

settings” that is restricted, as recited in claim 1) a recommended setting (e.g., a setting determined from learned patterns) to a user account (e.g., to a “user account,” as discussed in *Rector*) so that such recommended setting would be applied to the vehicle when next used with the profile (e.g., when the user uses the vehicle and his/her profile is loaded). As explained above, the “inputs made to systems of the vehicle” (e.g., user changes to vehicle settings) would be communicated to the server, where they would be processed by the “learning engine.” *See supra*, X.B.1.

246. Having done that, a POSA would have been motivated to produce a recommended setting from the user-specific patterns found/determined by the learning engine. Then, the recommended setting would be sent to the user account (e.g., sent to the “user account” associated with the driver, which could be accessed/viewed/managed at a variety of locations) so that the recommended setting could be applied at the vehicle. *Rector* states that a database “host[s] an account for a user” and such “user account” is associated with a driver. Ex. 1006, ¶¶ [0027], [0049]. Also, settings for a driver may be managed via a “web portal, on a screen in a vehicle, etc.” or “by text message, by a dedicated application . . . etc.” *Id.*, ¶¶ [0031], [0059]. A POSA would understand that a user could manage their user account remotely, such as by the means described by *Rector*, just like the ’244 patent describes. *See, e.g.*, Ex. 1001, 13:20-30 (“In one embodiment, the profile

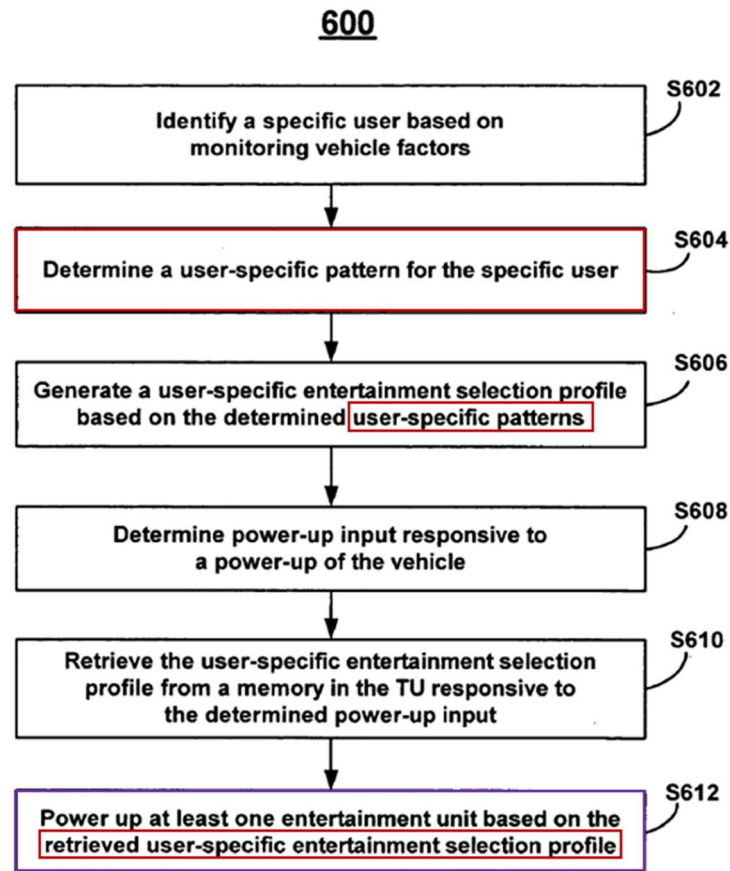
can be managed at a user account saved to a central or cloud distributed system, to manage access. Any vehicle can be abstracted so that any user can log into any vehicle if they have an account that allows access to that vehicle.”), 29:43-49 (“In one embodiment, at a remote location, a user is able to access a user interface for an application, which provides users access to user accounts. A user account can be for a user and the user can add one or more vehicles, objects, data or appliances for remote reporting, viewing and control.”). Like the ’244 patent, one would understand that the “user account” of *Rector* could receive settings (including recommended settings) and could be accessed to view/manage/accept/reject or otherwise apply them, including, e.g., in the vehicle. *See, e.g.*, Ex. 1006, ¶ [0059] (discussing managing settings “on a wireless communications device in communication with a network, on a personal computer in communication with the network through a web portal, *on a screen in a vehicle*, etc.”); Ex. 1007, ¶ [0037] (“the Owner and Temporary User may set up a user profile using a website or nomadic device communicating with the site that is stored in a database.”).

247. One would also have been motivated to send such recommended setting to the user account so that it could be applied in the vehicle without (or with less) user intervention, as taught by *Yassin*, to reduce distractions, as taught by *Rector*, and to improve upon the existing art that did not automatically apply settings, as taught by *Patenaude*. Ex. 1008, 2:30-41, 4:64-65; Ex. 1006, ¶¶ [0002]-

[0007]; Ex. 1009, ¶¶ [0001]-[0006]. Indeed, as this (and other) prior art demonstrate, it was known that it would be desirable to have an automated system “offer help to the user in choosing the right music” or other vehicle settings. Ex. 1010, ¶ [0010]. A POSA would have a reasonable expectation of success modifying the references to have the recommended setting sent to the user account because, as the references demonstrate, the user account can receive various information to enable personalized driving. Ex. 1006, ¶ [0026] (“The ‘user account’ includes several attributes for a particular user”), ¶ [0031] (“The settings, at least in part, are set by a controlling authority, such as a parent or superior of the driver. The settings may be set by the controlling authority through a web browser”); Ex. 1007, ¶ [0064] (“The Temporary User may also use their nomadic device to exchange or collect information for the enablement of a keyless drive-away system”), ¶ [0086] (“The website may be formatted to allow the Temporary User to input profile information using a personal computer, smart phone or other nomadic device.”).

248. Specifically, regarding the recommended setting, *Patenaude* discloses a method 600 (shown in Fig. 6 below) in which “telematics unit 120 determines a **user-specific pattern** for the specific user identified” Ex. 1009, ¶ [0067]. “After a minimum number of entertainment unit factors and selection time factors are stored in the in-vehicle memory 128 for the specific user, the processor 122 applies

an algorithm,” which “is operable to search for one or more patterns in the time frame in which an entertainment unit is selected by the specific user.” *Id.*, ¶ [0069]. *Patenaude* discloses that a **recommended setting** (e.g., a setting determined from the **user-specific pattern**) is automatically applied when a telematics unit is powered up and the user has been identified. *Id.*, ¶ [0074] (“During stage S612, the telematics unit 120 powers-up at least one entertainment unit 135, 136, or 137 based on the retrieved user-specific entertainment selection profile.”).



Annotated Fig. 6 of *Patenaude*

249. Thus, it would have been obvious, based on *Patenaude*, to modify *Rector*, *Kleve*, and *Yassin* to send, by the server (e.g., *Rector*'s setting server), a **recommended setting** (e.g., a setting determined from a user-specific pattern) to the user account (e.g., to the "user account," as in *Rector*), the **recommended setting** being based on processing by the learning engine (e.g., having applied an algorithm) and said **recommended setting** being **applied to the vehicle when the vehicle is used with the profile** (e.g., while the user has his/her profile loaded and is using the vehicle).

250. Accordingly, in my opinion, *Rector*, *Kleve*, *Yassin*, and *Patenaude* render claim 6 obvious.

3. Claim 7

7: "The method of claim 5, wherein the patterns are correlated to one or more **conditions, the one or more conditions include type of input, or time of day inputs, or temperature, or security, or number of occupants in the vehicle, or weather, or age of the vehicle, or service requirements of the vehicle."**

251. Further to claim 5, although *Rector* does not explicitly disclose the above-quoted limitation, *Patenaude* discloses it. It would have been obvious to combine *Rector*, *Kleve*, *Yassin*, and *Patenaude* and consequently reach the subject matter of claim 7 for multiple reasons.

252. In combining *Patenaude* with *Rector* as discussed above with respect

to claim 5, implementing *Patenaude*'s learning engine would have included having the patterns be correlated to one or more **conditions** (e.g., **factors**), which include one or more of the recited alternatives. One would also have been motivated to have the patterns be correlated to one or more conditions so that the determined patterns are more predictive of the user's desired intent, as taught by *Patenaude*. *Id.*, ¶¶ [0054]-[0057]. Also, a POSA would have had a reasonable expectation of success doing so because *Patenaude* demonstrates that determining patterns based on such factors is a known way to make its algorithm more accurate. *Id.*, ¶ [0070] (describing the consideration of factors such as time-of-day or number/location of passengers that can be used to more accurately determine appropriate selections, e.g., playing children's music while on the way to drop off a child off at day-care, and then changing to a particular FM radio station after it is determined there is no longer a passenger in the back seat).

253. Specifically, *Patenaude* discloses methods that take into account various **factors** including "number of passengers" (*id.*, ¶ [0044]), "time of day" (*id.*, ¶ [0054]), weather (*id.*, ¶ [0003]), "maintenance and diagnostic services for a mobile vehicle" (*id.*, ¶ [0029]), among others. *See also id.*, ¶ [0070].

254. Thus, it would have been obvious, based on *Patenaude*, to modify *Rector*, *Kleve*, and *Yassin* to have the patterns (e.g., *Patenaude*'s "patterns") be correlated to one or more conditions (e.g., *Patenaude*'s "factors") that include one

or more of the listed alternatives, such as “time of day inputs,” “temperature,” “number of occupants in the vehicle,” “weather,” or “service requirements of the vehicle.”

255. Accordingly, in my opinion, *Rector*, *Yassin*, and *Patenaude* render claim 7 obvious.

XI. GROUND 4: OBVIOUSNESS OF CLAIMS 8 AND 21 IN VIEW OF *RECTOR*, *KLEVE*, AND *FAENGER*

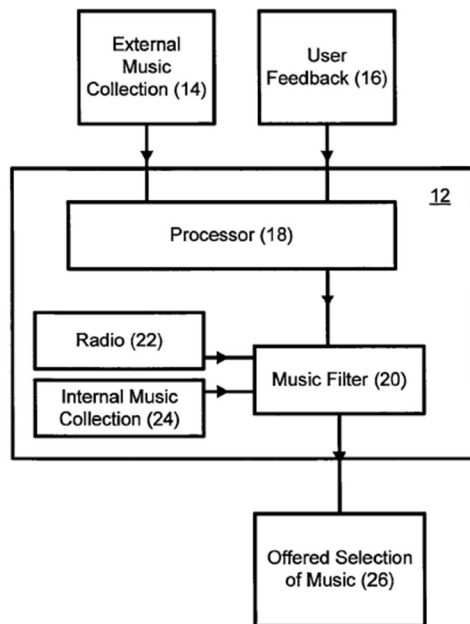
A. Overview of *Faenger*

256. *Faenger*, entitled “Personalized Entertainment System,” discloses a method of operating an entertainment system in a vehicle that includes conforming “audio/video options of the entertainment system . . . to the user’s preference profile” and “offer[ing] to the user” those options. Ex. 1010, Abstract. *Faenger* explains that using an entertainment system is “highly dependent on personal preferences” and discusses several ways of personalizing an entertainment system, such as (i) “collaborative filtering technology,” (ii) analyzing song characteristics to find similarities, and (iii) using “active feedback from the user.” *Id.*, ¶¶ [0004]-[0008].

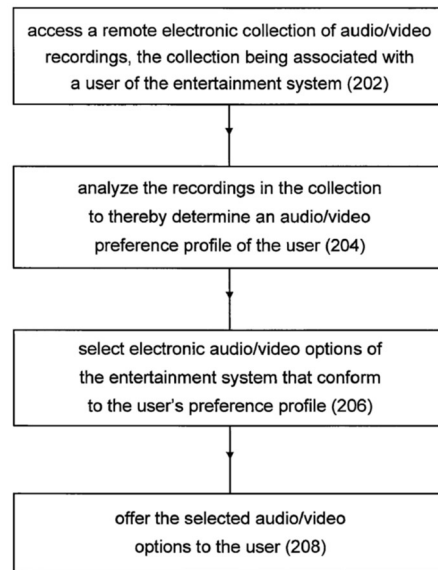
257. For example, *Faenger* discloses using the knowledge of a user’s preferences and applying it to “a car radio [or] a driver information system.” *Id.*, ¶ [0025]. *Faenger* explains that such devices “adapt to the music preferences of the

user.” *Id.* *Faenger* discusses the use of one or more algorithms “based on information gathered from [a user’s music] collection 14 and/or from feedback 16.” *Id.*, ¶ [0028]. In an embodiment, a recommended setting (e.g., a selection of music) may be “offered to the user.” *Id.*, ¶¶ [0028]-[0029]. As shown in Fig. 2 (below, right), *Faenger* discloses a step of *offering* (208) a selected audio/video option conforming with the user’s preferences, which “give[s] the user the *option of allowing* the system” to, e.g., automatically tune to a radio station or program a preset pushbutton. *Id.*, ¶ [0064].

FIG. 1



10



200

FIG. 2

Figs. 1 and 2 of *Faenger*

B. A POSA would have combined the teachings of *Rector* and *Faenger*

258. A POSA would have considered the teachings of *Faenger* for improving the method of *Rector* (as may be modified by *Kleve*). To the extent Patent Owner may argue that *Rector* does not explicitly disclose a “learning engine,” as recited in claims 8 and 21, these features would have been obvious. *Rector* discusses automatically applying vehicle settings, which is desirable for enhancing convenience and reducing preventable distractions. Ex. 1006, ¶¶ [0001]-[0008]. It was well-known in the art for a computerized system to learn a vehicle user’s preferences and apply them when using the vehicle, as demonstrated by *Faenger*. Ex. 1010, ¶¶ [0002]-[0011], [0052]-[0053]. Furthermore, implementing the learning engine of *Faenger* in the method of *Rector* would require little more than obtaining the predictable result of further enhancing convenience as taught by *Faenger*. *Id.*

259. For example, one would have been motivated to further improve the method of *Rector*, which aims to reduce distractions and improve convenience, by implementing a system “that is capable of learning user preferences,” as in *Faenger*. *Id.*, ¶¶ [0004]-[0007]; Ex. 1006, ¶¶ [0002]-[0011]. One would have been guided by *Rector*, which aims to reduce driver distractions, to look to *Faenger*, which provides another opportunity to reduce distractions by way of learning and

automatically applying settings divined from multiple sources, including from multiple different users. *See* Ex. 1010, ¶¶ [0017], [0046], [0054]. Adding *Faenger*'s learning engine would have the predictable result of enhancing the functionality of *Rector* to learn one or more users' tastes and predict their setting changes (e.g., predicted radio station changes), without requiring users to repeatedly make those changes (thereby further reducing distractions).

260. Additionally, *Rector* and *Faenger* are analogous art to the claimed invention of the '244 patent because the references are (1) from the same field of endeavor as the claimed invention (i.e., applying settings to vehicles based on user profiles); and/or (2) the references are reasonably pertinent to the problem faced by the inventor (i.e., improving application of settings to vehicles). For example, *Faenger* describes efforts to overcome limitations in prior systems that did not automatically apply user settings to vehicle entertainment systems. *Id.*, ¶¶ [0002]-[0011], [0052]-[0053] ("without the user having to manually train the entertainment system about his specific preferences"). *Rector* and *Faenger* recognize the benefit of enhanced convenience by automatically applying a user's desired settings, which include multimedia settings.

261. As detailed below, the combination of *Rector*, *Kleve*, and *Faenger* renders claims 8 and 21 obvious.

1. Claim 8

**8[a]: “The method of claim 1, further comprising:
accessing, by the server, a plurality of profiles of
different users stored in the storage accessible to the
cloud services system;”**

262. *Faenger* teaches this limitation, including accessing a plurality of profiles of different users (e.g., “the preferences of multiple users”). *Id.*, ¶¶ [0017], [0046], [0049], [0054], [0059]. *Faenger* also discloses the use of a server, and that users’ collections (from which preference can be determined) may be stored on the server. *Id.*, ¶¶ [0024], [0028], [0030]. *Faenger* states that his invention “learn[s] about a user’s entertainment preferences” and “stores the preferences in a user profile.” *Id.*, ¶ [0050].

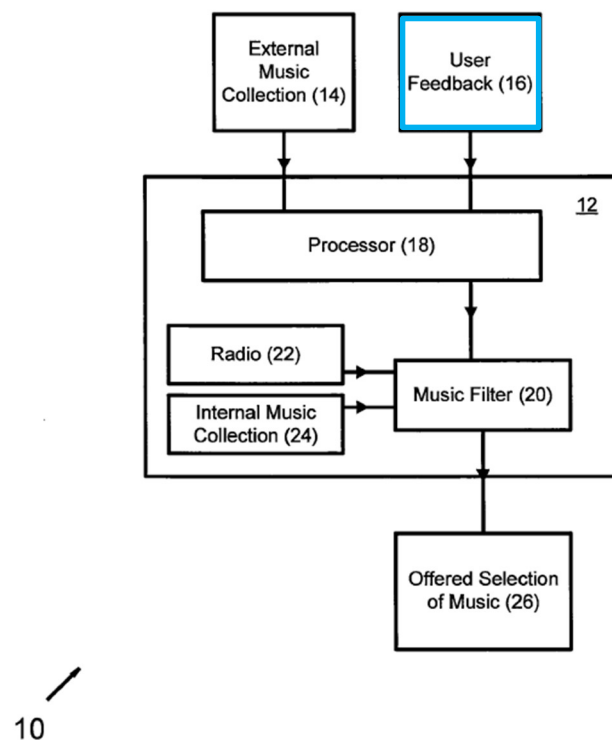
263. Accordingly, in my opinion, *Rector*, *Kleve*, and *Faenger* teach or suggest this limitation.

**8[b]: “detecting, by the server, similarities in patterns
for inputs made to systems of vehicles associated with
the profiles of different users;”**

264. Further to element 8[a], *Faenger* teaches this limitation. For example, *Faenger* discloses detecting similarities in patterns (e.g., analyzing the “varied musical tastes of the individuals who make up a group of people”) for inputs (e.g., “feedback”) that are considered when determining what selection to offer a user. *See, e.g., id.*, ¶¶ [0026], [0059], Fig. 1 (below); *see also id.*, ¶ [0056] (analyzing “a level of similarity”). *Faenger* discloses that such feedback is made to systems of

vehicles (e.g., “pressing one of the pushbuttons” of an entertainment system) that may be associated with the **profiles** of **different users**. (e.g., “personalized” according to the **users’ tastes**). *Id.*, ¶¶ [0035]-[0036], [0043].

FIG. 1



Annotated Fig. 1 of *Faenger*

265. Accordingly, in my opinion, *Rector*, *Kleve*, and *Faenger* teach or suggest this limitation.

8[c]: “using, by the server, a **learning engine** to produce a **recommended setting** that is **sent** to the

user account.”

266. Further to elements 8[a] and 8[b], *Faenger* teaches this limitation. For example, *Faenger* discloses a **learning engine** (e.g., “an **entertainment system to learn** about a user’s musical taste”). *Id.*, ¶¶ [0024], [0032]. Such entertainment system may “run one or more **algorithms** . . . based on information gathered from collection 14 and/or from feedback 16.” *Id.*, ¶ [0028]. Separate from the “at least one of said plurality of settings” that is restricted (as recited in claim 1), *Faenger* discloses a **recommended setting** (e.g., a **personalized selection of audio/video options** offered to the user, such as “**recommended radio stations**”). *Id.*, ¶¶ [0028]-[0029], [0035]-[0036].

267. *Faenger* further discloses that such **recommended setting** (e.g., **selected audio/video options**) is **sent** (e.g., “**offered**”). *Id.*, ¶ [0064], Fig. 2 (below). As discussed above with reference to claim 6, a POSA would also have been motivated and had a reasonable expectation of success sending such recommended setting to the “user account” so that it could be applied in the vehicle without (or with less) user intervention and to reduce distractions. *See supra*, X.B.2.

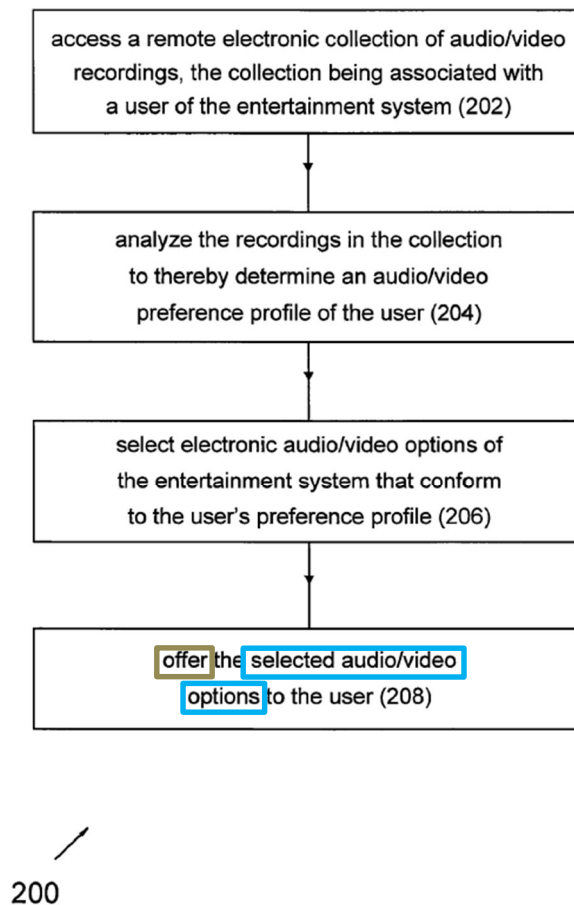


FIG. 2

Annotated Fig. 2 of *Faenger*

268. Accordingly, in my opinion, *Rector*, *Kleve*, and *Faenger* teach or suggest this limitation. *Rector*, *Kleve*, and *Faenger* thus disclose, teach, or suggest every limitation of claim 8. It would have been obvious to combine *Rector*, *Kleve*, and *Faenger* as explained above, and this combination renders claim 8 obvious.

2. Claim 21⁸

21[preamble]: “A cloud-based system including one or more data centers, and each data center of the

⁸ Claim 21 is shown in the requested COC. Ex. 1002, 627.

cloud-based system includes one or more servers, wherein some of said one or more servers have program instructions for enabling connections with vehicles and providing services to vehicles, wherein one service includes enabling access to settings associated with profiles of user accounts of the cloud-based system, comprising:”

269. To the extent the preamble is found limiting, *Rector* discloses this limitation for at least the same reasons discussed above. *See supra*, VIII.I (discussing identical claim element 17[preamble]).

270. Accordingly, in my opinion, *Rector* discloses this limitation.

21[a]: “receiving, by one of the servers, a request from a vehicle to access a profile for a user account associated with a user, the request identifies user information related to a user;”

271. *Rector* discloses this limitation for at least the same reasons discussed above. *See supra*, VIII.I (discussing identical claim element 17[a]).

272. Accordingly, in my opinion, *Rector* discloses this limitation.

21[b]: “processing, by one of the servers, at least part of the user information to verify the access for the user, the profile having a plurality of settings of the user for the vehicle, wherein at least part of the plurality of settings of the profile being stored on storage accessible to said one or more servers; and”

273. *Rector* and *Kleve* render this limitation obvious for at least the same reasons discussed above. *See supra*, VIII.I (discussing nearly identical claim element 17[b]). Like element 17[b], the superficial variations in language with

element 1[b] do not affect its patentability in light of the prior art. *Id.*

274. Accordingly, in my opinion, *Rector* and *Kleve* render this limitation obvious.

21[c]: “transferring, by one of the servers, upon verification of the user information, one or more settings of the plurality of settings to storage of the vehicle, the transferring is configured to instruct software and hardware associated [with] the vehicle to enable said one or more settings for use on the vehicle to customize said vehicle for the user, the request and the transferring being via wireless communication of said vehicle;”

275. *Rector* and *Kleve* render this limitation obvious for at least the same reasons discussed above. *See supra*, VIII.I (discussing nearly identical claim elements 17[c]-[e]). Element 21[c] recites transferring settings “to storage of the vehicle,” which *Rector* nevertheless discloses, as explained above. *Id.*

276. Accordingly, in my opinion, *Rector* and *Kleve* render this limitation obvious.

21[d]: “wherein a learning engine executed by a server of at least one data center is configured to process inputs made to one or more settings of the vehicle by the user to generate a recommended setting to add to the plurality of settings of the profile;”

277. *Rector* in view of *Kleve* and *Faenger* render obvious this limitation for at least similar reasons as those discussed above. *See supra*, XI.B.1 (discussing similar elements recited in claim 8). The differences in claim language are merely

that elements are arranged differently, but such differences do not result in any significance as to patentability in light of the prior art.

278. Element 21[d] includes, for example, the learning engine configured to “generate a recommended setting to add to the plurality of settings of the profile.” *Faenger* discloses that a recommended setting is “offered to the user,” Ex. 1010, ¶¶ [0063]-[0064], and a POSA would understand that such setting would be added to the plurality of settings of the profile, for example, if the user accepts it. *See, e.g., id.*, ¶¶ [0048] (explaining that a user may “accept the offer” of the recommendation “via a voice command or by pressing a particular pushbutton”), [0028], [0045], [0071] (explaining that selections or other learned knowledge is saved (e.g., “stored . . . on a remote server or other external memory”)); *see also, infra*, XI.B.2 (discussing element 21[e]).

279. Accordingly, in my opinion, *Rector*, *Kleve*, and *Faenger* teach or suggest this limitation.

21[e]: “wherein *accepted recommendations* are *saved* to the profile and added to the cloud storage that is accessible to said one or more servers.”

280. *Rector* in view of *Kleve* and *Faenger* render obvious this limitation. A POSA would have been motivated and found it obvious to save accepted recommendations, and would have had a reasonable expectation of success, as demonstrated by *Faenger*. The accepted recommendations could be saved to the

server. For example, further to element 21[d], reciting “generate a recommended setting,” *Faenger* discloses that a user may “**accept** the offer” of the **recommendation** “via voice command or by pressing a particular pushbutton” Ex. 1010, ¶ [0048]. *Faenger* also discloses that accepted recommendations (e.g., selections or other learned knowledge) are **saved** to a server (e.g., “**stored** . . . on a remote server or other external memory”). *Id.*, ¶¶ [0028], [0045], [0071]. A POSA, seeking to improve the user experience of *Rector*, would have been guided to apply these teachings because they demonstrate straightforward ways of incorporating user feedback by saving recommendations to the profile on the server so they can be used during later vehicle use. *Id.*, ¶ [0010] (explaining that “[t]his learning and feedback period is a critical point for all known personalized entertainment systems”), ¶ [0012] (describing its inventive system that “may also actively or passively receive user feedback”). Thus, feedback can be incorporated in a non-intrusive manner. And the accepted recommendations are “accessible to said one or more servers,” as the claim recites.

281. Accordingly, in my opinion, *Rector*, *Kleve*, and *Faenger* teach or suggest this limitation. *Rector*, *Kleve*, and *Faenger* thus disclose, teach, or suggest every limitation of claim 21. It would have been obvious to combine *Rector*, *Kleve*, and *Faenger* as explained above, and this combination renders claim 21 obvious.

XII. GROUND 5: OBVIOUSNESS OF CLAIM 22 IN VIEW OF *RECTOR, KLEVE, FAENGER, AND YASSIN*

A. Claim 22

282. A POSA would have been motivated and found it obvious to combine *Rector, Kleve, and Yassin* as discussed above. *See supra*, IX.B. The same is true for the combination of *Rector, Kleve, and Faenger*. *See supra*, XII.B. The resulting combination would have met all the elements of claim 22, which overlap with elements previously discussed, as shown below. For example, claim 22 recites combinations of elements from dependent claims (such as claim 2, which depends from claim 1). The integration of the features of the secondary references can be made independent of one another without any significant complexity or dependency between the additional features as taught or suggested by the references.

22[a]: “The cloud-based system of claim 21, wherein the profile is transferrable to one or more other vehicles, and”

283. *Rector* in view of *Kleve* and *Yassin* renders obvious this limitation for at least the same reasons as claim 2. *Supra*, IX.B.1 (discussing similar limitation in claim 2).

284. Accordingly, in my opinion, *Rector, Kleve, Faenger* and *Yassin* teach or suggest this limitation.

22[b]: “wherein being transferrable enables syncing of said profile by uploading and downloading the profile from the

server and saving it to storage of the one or more other vehicles for use of said plurality of settings.”

285. *Rector* in view of *Kleve* and *Yassin* render obvious this limitation. A POSA would have been motivated and found it obvious to sync profiles with a server, and would have had a reasonable expectation of success, as demonstrated by *Yassin*. For example, further to element 22[a], *Yassin* discloses the enabling of syncing of profiles in the manner recited, e.g., such that the same synched profile settings could be applied to other vehicles. *Yassin* states that a user’s settings are retrievable from a server “with any of a variety of vehicles in a variety of locations.” Ex. 1008, 6:65-67. As *Yassin* explains, a driver’s profile (which may pertain to a certain vehicle) “can be used to determine the appropriate customizable settings for *all* other vehicles of a similar make or model.” *Id.*, 6:67-7:4. Furthermore, when there are “changes made to the driver’s vehicle preferences,” the updates are “sent over the communication link to the profile tag server 19” to be applied in other vehicles. *Id.* 7:9-18. The method made obvious by *Rector*, *Kleve*, and *Yassin* would naturally include processing those updates by “uploading and downloading” between the server and other vehicles. For example, as shown by *Yassin*, the next time a user uses a vehicle, the server “queries a profile database . . . to recover [the] personal profile of [the] driver,” which would include any prior updates. *Id.*, 3:9-23, 6:52-64, Figs. 4, 5A. As explained by *Yassin*, such procedure

may use “standard and well known database software and computer hardware.” *Id.*, 6:52-64. Also, it would have been obvious to have a user’s settings unified between various vehicles and synced with the server because *Yassin* teaches that the “profile database . . . *preferably* will be maintained externally.” *Id.*, 5:40-42. Accordingly, a POSA, seeking to improve the user experience of *Rector*, would have been guided to apply *Yassin*’s storage of settings to unify the user’s experience across different vehicles. Additionally, as explained above, *Rector* discloses settings of the profile being stored on storage. *See supra*, VIII.A.1[b]. It would have been obvious to have the synced settings/profile be saved to storage of the particular vehicle so that the settings/profile would not be lost, or would be cached for easier/faster application the next time the user uses that vehicle. *Yassin* states that “[t]he profile database 7 may be kept locally in the vehicle 1.” Ex. 1008, 5:40-42. Although *Yassin* teaches that it is preferable to maintain the database externally, *id.*, this shows that it would have easily been within the grasp of a POSA to have the synced settings/profile be saved locally, too.

286. Accordingly, in my opinion, *Rector*, *Kleve*, *Faenger*, and *Yassin* teach or suggest this limitation.

287. *Rector*, *Kleve*, *Faenger*, and *Yassin* thus disclose, teach, or suggest every limitation of claim 22. It would have been obvious to combine *Rector*, *Kleve*, *Faenger*, and *Yassin* as explained above, and this combination renders claim 22

obvious.

XIII. SECONDARY CONSIDERATIONS OF NON-OBVIOUSNESS

288. I am not aware of any secondary considerations, or so-called “objective indicia of non-obviousness” for the challenged claims. Secondary considerations could include things like commercial success of a product due to the merits of the claimed invention; a long felt need for the solution provided by the claimed invention; unsuccessful attempts by others to find the solution provided by the claimed invention; copying of the claimed invention by others; unexpected and superior results from the claimed invention; acceptance by others of the claimed invention as shown by praise from others in the field or from the licensing of the claimed invention; teaching away from the conventional wisdom in the art at the time of the invention; independent invention of the claimed invention by others before or at about the same time as the named inventor thought of it; and other evidence tending to show obviousness. However, Patent Owner has not identified any such secondary considerations, and I am not independently aware of any. For example, Patent Owner has no commercial products embodying the '244 patent that I am aware of. Additionally, as discussed throughout this declaration, the claimed features reflect predictable results of combining known elements according to their known functions, and thus, there are no unexpected and superior results from the claimed invention. Also, there are no licenses of the '244 patent of

which I am aware.

289. Further, even if Patent Owner were to assert that secondary considerations exist, given the strong reasons that the challenged claims are obvious in light of the prior art cited herein, including the motivations to combine the references set forth above, I do not believe any such secondary considerations would rise to the level of overcoming the invalidity opinions I have expressed.

290. I understand that Patent Owner may address the issue of secondary considerations more fully in the future. I reserve the right to respond to any specific bases for such secondary considerations that Patent Owner may identify.

XIV. CONCLUSION

291. For the reasons set forth above, I believe claims 1, 2, and 4-22 of the '244 patent are unpatentable in view of the prior art. In signing this declaration, I understand that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I acknowledge that I may be subject to cross-examination in this case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for cross-examination within the United States during the time allotted for cross-examination.

292. I declare that all statements made herein of my knowledge are true, that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Dated: April 25, 2024

By: Kevin C Almeroth
Kevin C. Almeroth, Ph.D.