

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNITED SERVICES AUTOMOBILE ASSOCIATION,
Petitioner,

v.

AUTO TELEMATICS LTD.,
Patent Owner.

IPR2023-00768
Patent 10,192,369 B2

Before GEORGE R. HOSKINS, FRANCES L. IPPOLITO, and
SEAN P. O'HANLON, *Administrative Patent Judges*.

IPPOLITO, *Administrative Patent Judge*.

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

I. INTRODUCTION

United Services Automobile Association (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 1–27 of U.S. Patent No. 10,192,369 B2 (Ex. 1001, “the ’369 patent”). Petitioner also filed a paper ranking three Petitions filed against the ’369 patent—ranking the Petitions 1 to 3 for, respectively, IPR2023-00768 (this IPR), 00769, and 00770. Paper 3. Auto Telematics Ltd. (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless the information presented in the Petition and any response thereto shows “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Considering the arguments presented, we conclude that there is a reasonable likelihood that Petitioner would prevail in challenging at least one of claims 1–27 of the ’369 patent as unpatentable under the grounds presented in the Petition. Pursuant to § 314, we hereby institute an *inter partes* review as to these claims of the ’369 patent.

A. Related Matters

According to the parties, the ’369 patent is the subject of a civil action in *Auto Telematics Ltd. v. United Services Automobile Association*, 6:22-cv-00474-ADA-DTG, W.D. Tex.), filed May 11, 2022. Pet. 86; Paper 5. Patent Owner also identifies the above-noted IPR2023-00769 and 00770. Paper 5.

B. The ’369 Patent (Ex. 1001)

The ’369 patent relates generally to “a mobile device adapted for installation to a vehicle and configured to log . . . driving information, for

example, video footage associated with how the vehicle is driven.”

Ex. 1001, 1:24–27. This information may be utilized “to determine the cause of an event such as an accident, to modify driver behaviour and/or to determine insurance premiums.” *Id.* at 1:27–30.

The ’369 patent describes that “data logging devices exist for road vehicles,” and can be used “to determine the cause of traffic accidents or other vehicle-related events, whether these stem from a vehicle malfunction or driver negligence.” *Id.* at 1:41–46. However, these devices are often “integrated with the car data network,” and “difficult and costly to install.” *Id.* at 1:49–53.

The ’369 patent thus proposes a “mobile telecommunications device adapted for installation to a vehicle and configured to log driving information associated with the vehicle when driven.” *Id.* at 1:64–67. According to the ’369 patent, “the use of a mobile telecommunication device enables a data logging device to be conveniently and inexpensively retrofitted to a vehicle.” *Id.* at 2:15–17.

To log the data, the adapted device operates by “registering the start of the driving period during which the mobile device is installed to the vehicle and the vehicle is being driven by the driver.” *Id.* at 3:21–23. This prevents logging information needlessly. *Id.* at 3:24–25. Preferably, the registration is “in response to an initialisation input,” such as user input, or automatic, “in response to the mobile device being installed to the vehicle and/or the vehicle being driven.” *Id.* at 3:32–39. “For example, if the sensor data reflects a detected speed above a predetermined threshold—for example, 20 kilometers per hour—then this can be used to trigger the start of the driving period.” *Id.* at 3:42–45.

Figure 2, reproduced below, shows a schematic presentation of an automobile with a mobile device installed for logging. *Id.* at 12:57–59.

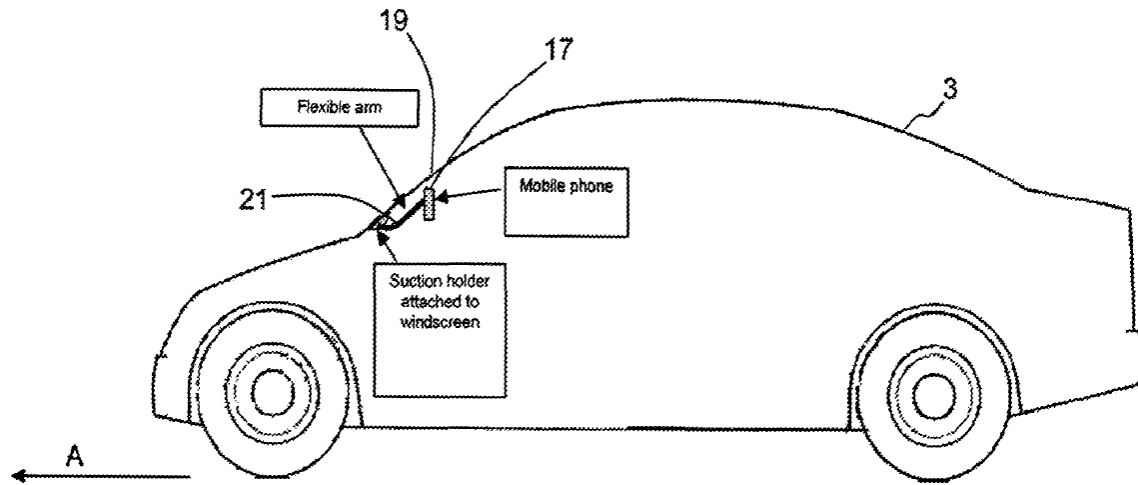


Figure 2, reproduced above, shows a preferred arrangement of the mobile telecommunications device 17 within the automobile 3. *Id.* at 15:1–4.

Figure 3, reproduced below, shows a schematic illustration of the functional components of the mobile device of Figure 2. Ex. 1001, 12:60–61.

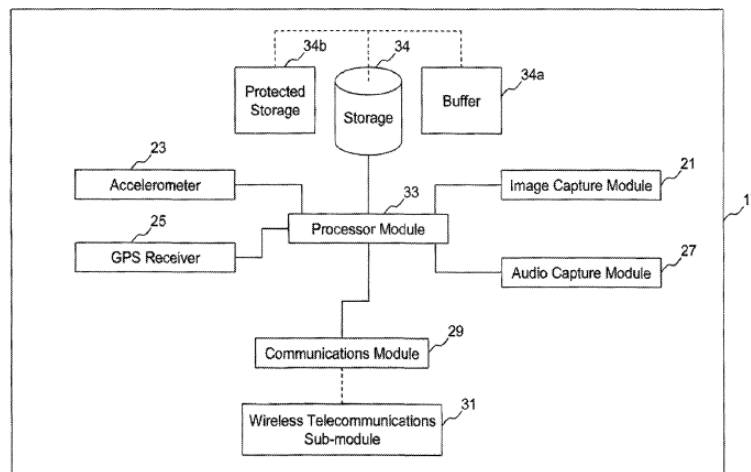


Fig. 3

Figure 3, reproduced above, shows modular components of mobile telecommunication device 17 of Figure 2. Ex. 1001, 15:41–42. The '369

patent discloses that sampled sensor data is stored in storage 34. *Id.* at 16:66–67. Referring to the flow chart in Figure 4a, the '369 patent further discloses that

[o]nce the driving period has been initiated, sensor data is sampled and recorded in storage 34, at step 44. Additionally, the sampled sensor data is used to generate driving information by the processor module 33. The sampled sensor data and the driving information is continuously analysed by the processor module 33, at step 46.

The processor module 33 determines if a driving incident has been detected, at step 48. This is determined on the basis of the analysis carried out at step 46. If a driving incident has been detected, all the sensor data and driving information associated with the data file period, is stored in a data file in protected storage 34b, at step 50.

Ex. 1001, 19:17–28. According to the '369 patent, the sampled data is preferably stored in the storage buffer 34a, “unless a driving incident has been identified, in which case the associated sensor data and driving information is stored in the *permanent storage component 34b to avoid undesirable overwriting.*” Ex. 1001, 17:8–14 (emphases added). The '369 patent adds that

[i]n preferred embodiments, the FIFO storage buffer 34a is provided with a finite amount of storage space. Nonetheless, said storage space may be predefined by the user as will be described below. In any case, once this storage space has been exhausted, the oldest recorded data is overwritten by newly sampled data, and this cycle of overwriting older data with newly sampled data is continuously carried out during operation of the telecommunications device 17, *unless a driving incident has been detected, in which case, and as mentioned previously, all data related to the driving incident is stored in a long term protected storage 34b to safeguard it from being overwritten by newer data.*

Ex. 1001, 17:15–26 (emphases added).

C. Challenged Claims

Petitioner challenges claims 1–27. Pet. 1. Claims 1, 26, and 27 are the independent claims. Claim 1 is reproduced below with, in brackets, the Petition’s identifiers (Pet. xi–xii):

- [1.1] A mobile telecommunications device configured to log driving information associated with a vehicle, the mobile telecommunications device comprising:
 - [1.2] a sensor set comprising an image sensor, an audio sensor, an accelerometer or a positioning module, or a combination thereof;
 - [1.3] a user interface;
 - [1.4] a processor and;
 - [1.5] a memory;
 - [1.6/1.7/1.8] the mobile telecommunications device being configured to:
 - [1.6] determine, based on at least one of the inputs received by the user interface and sensor data from the device’s sensor set, a start of a driving period during which the mobile device is removably attached to the vehicle and the vehicle is in use;
 - [1.7] process the sensor data from the sensor set during the driving period to derive driving information associated with how the vehicle is driven; and
 - [1.8] store a selection of the driving information to the memory;
- [1.9/1.10] wherein
 - [1.9] the driving information is derived without data from the vehicle sensors, and
 - [1.10] the memory comprises: a long term memory for persistently storing driving information and a short term memory for transiently storing driving information, wherein the short term memory receives driving

information at a higher update rate than the long term memory,

[1.12/1/13] the mobile telecommunications device being further configured to:

[1.12] write driving information to the short term memory at a predetermined update rate during the driving period in a predetermined sequence; and,

[1.13] overwrite the driving information previously written to the short term memory in accordance with the predetermined sequence.

Ex. 1001, 31:42–32:10 (minor reformatting added).

D. Alleged Grounds of Unpatentability

Petitioner asserts the following grounds of unpatentability:

Claims Challenged	35 U.S.C. §	References
1–4, 6, 9–12, 16–24, 26	103(a)	Curry ¹ , Rabu, ² Katayama ³
5	103(a)	Curry, Rabu, Katayama, Tamir ⁴
7, 8, 15	103(a)	Curry, Rabu, Katayama, Balachandran ⁵

¹ WIPO Application Publication No. WO 2010/042545 A2, published April 15, 2010 (Ex. 1005) (“Curry”).

² U.S. Patent No. 8,682,399 B2, issued March 25, 2014 (Ex. 1013) (“Rabu”).

³ European Patent Application Publication No. EP 1,914,691 A1, published April 23, 2008 (Ex. 1024) (“Katayama”).

⁴ U.S. Patent No. 7,821,421 B2, issued October 26, 2010 (Ex. 1006) (“Tamir”).

⁵ U.S. Patent No. 6,073,004, issued June 6, 2000 (Ex. 1007) (“Balachandran”).

13, 14	103(a)	Curry, Rabu, Katayama, Thompson ⁶
25	103(a)	Curry, Rabu, Katayama, Willis ⁷
27	103(a)	Curry, Rabu, Katayama, Berkobin ⁸

Pet. 1–2. In addition to the references listed above, Petitioner relies on the Declaration of Dr. William R. Michalson (Ex. 1003). *See, e.g.*, Pet. 1 n.1.

II. ANALYSIS

A. Claim Construction

For petitions such as this one, filed after November 13, 2018, we apply the same claim construction standard “used in the federal courts, in other words, the claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. [§] 282(b),” which is articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). 83 Fed. Reg. 51,340, 51,358 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018) (now codified at 37 C.F.R. § 42.100(b) (2019)). Under the *Phillips* standard, the “words of a claim are generally given their ordinary and customary meaning,” which is “the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at 1312–13.

⁶ Thompson et. al, “Using Smartphones to Detect Car Accidents and Provide Situational Awareness to Emergency Responders,” Mobileware 2010, LNICST 48, pp. 29–42, 2010 (Ex. 1008) (“Thompson”).

⁷ WIPO Application Publication No. WO 2007/114716 A1, published October 11, 2007 (Ex. 1009) (“Willis”).

⁸ U.S. Patent Application Publication No. 2008/0255888 A1, published October 16, 2008 (Ex. 1010) (“Berkobin”).

According to Petitioner, “no express constructions are required in this proceeding.” Pet. 3. However, Petitioner contends, as to the term “driving period,” that “the claim leaves open the possibility of the driving period corresponding to the beginning, middle or end of, a vehicle’s operation.” *Id.* Petitioner further contends:

Thus, this claim term establishes two distinct “driving period” attributes: (1) “the mobile device is removably attached to the vehicle” and (2) “the vehicle is in use.” USAA-1003, ¶138. These attributes may be satisfied by a start of a monitoring period, whether at the onset of vehicle driving or whether instead before or thereafter. *Id.*

Pet. 4.

According to Patent Owner, Petitioner’s proposed construction of “driving period” is “flawed because it introduces unsupported limitations for the driving period not included in the claims.” Prelim. Resp. 22. Patent Owner contends:

Specifically, Petitioner’s characterization of the start of a driving period as a “monitoring period” that starts at any time with respect to the onset of driving, *id.*, is simply an inaccurate generalization of “driving period” that has no basis in the specification or claims. Nowhere in the ’369 specification or claims is Petitioner’s constructed term “monitoring period” used or defined. *See generally* USAA-1001. For example, the claims do not state that the mobile device must be removably attached “to satisfy a start of a monitoring period,” as suggested by Petitioner. *See* Pet. at 4. Instead, the claims require that the mobile device be removably attached *during* the driving period: “determine, based on inputs received by the user interface and sensor data from the device’s sensor set, a start of a driving period *during which* the mobile device is removably attached to the vehicle and the vehicle is in use,” as recited by Claim 1 of the ’369 patent (emphasis added). The claim language itself accurately captures the scope of the invention, and there is no

need for a different construction incorporating Petitioner's manufactured limitations for the driving period.

Prelim. Resp. 22–23.

We do not need to construe any terms expressly to reach our decision. *See Realtime Data LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

B. Alleged Obviousness

In *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966), the Supreme Court set out a framework for assessing obviousness under § 103 that requires consideration of four factors: (1) the “level of ordinary skill in the pertinent art,” (2) the “scope and content of the prior art,” (3) the “differences between the prior art and the claims at issue,” and (4) “secondary considerations” of non-obviousness such as “commercial success, long-felt but unsolved needs, failure of others, etc.” *Id.* at 17–18. “While the sequence of these questions might be reordered in any particular case,” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 407 (2007), the Federal Circuit has “repeatedly emphasized that an obviousness inquiry requires examination of all four *Graham* factors and that an obviousness determination can be made only after consideration of each factor.” *Nike, Inc. v. Adidas AG*, 812 F.3d 1326, 1335 (Fed. Cir. 2016).

We note that, with respect to the fourth *Graham* factor, the current record in this proceeding does not include any argument or evidence directed to secondary considerations of nonobviousness. The analysis below addresses the first three *Graham* factors.

C. Level of Ordinary Skill in the Art

In determining the level of skill in the art, we consider the type of problems encountered in the art, the prior art solutions to those problems, the rapidity with which innovations are made, the sophistication of the technology, and the educational level of active workers in the field. *Custom Accessories, Inc. v. Jeffrey-Allan Indus. Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986); *Orthopedic Equip. Co. v. U.S.*, 702 F.2d 1005, 1011 (Fed. Cir. 1983).

Petitioner does not expressly propose a level of skill of the ordinary artisan in the Petition. *See generally* Pet. Instead, Petitioner refers to the Michalson Declaration for a definition. Pet. 11 n.3 (“USAA-1003, ¶¶14-15 (defining a POSITA)”). In the cited paragraphs of the Declaration, Petitioner’s expert proposes “that a person of ordinary skill in the art in this matter would have had at least a Bachelor of Science Degree (or equivalent) in an academic area emphasizing electrical engineering, computer engineering, computer science, or a related technical field, and about 2–3 years of experience in the field of telematics systems (e.g., familiarity with control and diagnostic systems, navigation systems and wireless communication technology).” Ex. 1003 ¶ 15. Dr. Michalson further proposes “[m]ore education, e.g., a doctorate in an academic area emphasizing electrical engineering, computer engineering, computer science, or a related technical field, would compensate for fewer years of work experience.” *Id.*

Patent Owner does not dispute this level of skill. Prelim. Resp. 21.

For purposes of this Decision, we adopt the proposal of Petitioner’s expert, which comports with the teachings of the ’369 patent and the

asserted prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

D. Prior Art References

1. Curry (Ex. 1005)

Curry describes “monitoring and controlling the use of a mobile computing device.” Ex. 1005, code (57). Curry’s system “includes a data server containing a model of a road network specifying traffic routes at a selected location,” and a “mobile wireless computing device . . . configured to wirelessly communicate with the data server.” *Id.* at 3:3–5⁹. Curry’s system further stores information from GPS and accelerometer sensors in the mobile device, such as location, speed, and acceleration, and uses the information to calculate a driver safety statistic, based on when and where the wireless computing device was used and the motion of the device. *Id.* at 3:6–30.

Figure 1, reproduced below, illustrates Curry’s system.

⁹ Exhibit 1005 contains two sets of page numbers on the bottom of each page. The citations in this Decision refer to the bottommost numbers unless the Decision quotes or refers to the exact citations in the parties’ briefs or expert declaration.

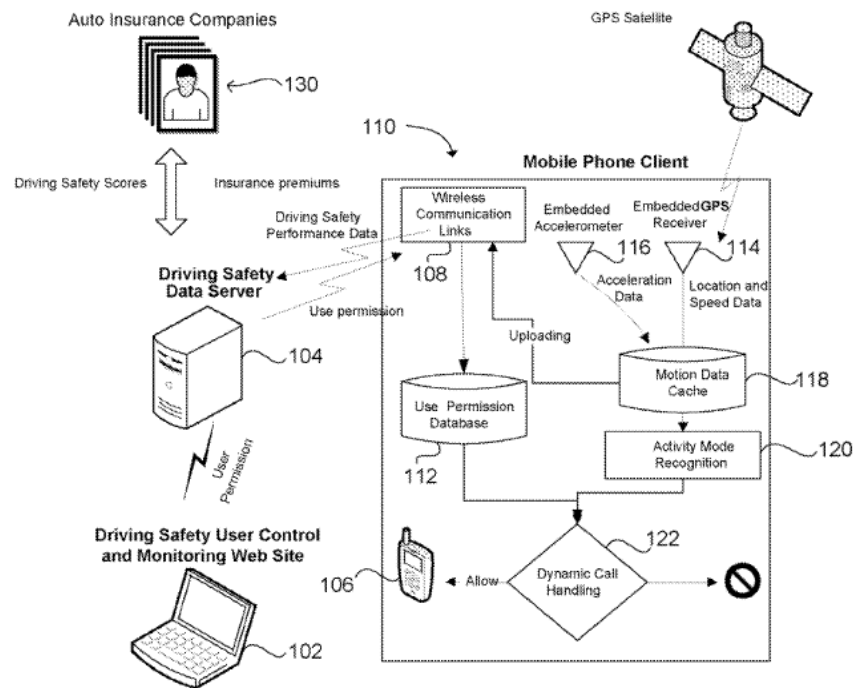


Figure 1 shows data server 104, user control web site 102, and mobile client 110 unit on a GPS-enabled mobile phone 106, with GPS 114, accelerometer 116 sensors, and wireless connection 108. *Id.* at 7:30–8:23.

2. *Rabu (Ex. 1013)*

Rabu is directed to “[m]ethods for operating a portable media device” (‘PMD’) where “the portable media player can determine a motion status and select a mode of operation based on the motion status.” Ex. 1013, code (57). Figure 6, reproduced below, shows a flow diagram of Rabu’s method. *Id.* at 2:33–35.

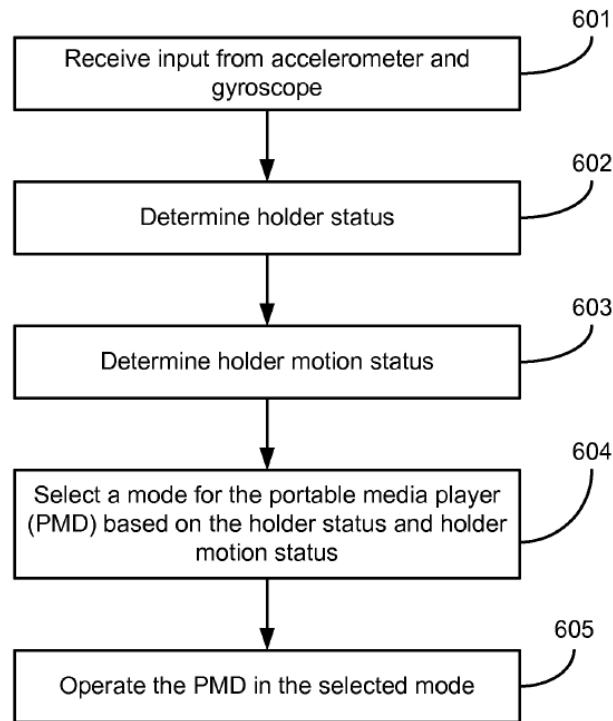


Figure 6, reproduced above, shows the main steps of the invention's operation. *Id.* As shown above, at block 601, the PMD can receive input from one or more motion sensors, e.g., an accelerometer and a gyroscope. Ex. 1013, 7:11–13. “[T]he input can indicate orientation angle and motion information of the PMD.” *Id.* at 7:14–15. At block 602, the PMD can determine a holder status and at block 603, the PMD can determine whether it is in a moving vehicle, in a stationary vehicle, being handled by a moving person, or being handled a stationary person. *Id.* at 7:15–16, 7:22–26.

3. *Katayama* (Ex. 1024)

Katayama describes a driving monitor that records driver behavior and “a surrounding situation” during a period before and after an accident. Ex. 1024 ¶ 1. Figure 5 of Katayama, reproduced below, is a functional block diagram of the invention.

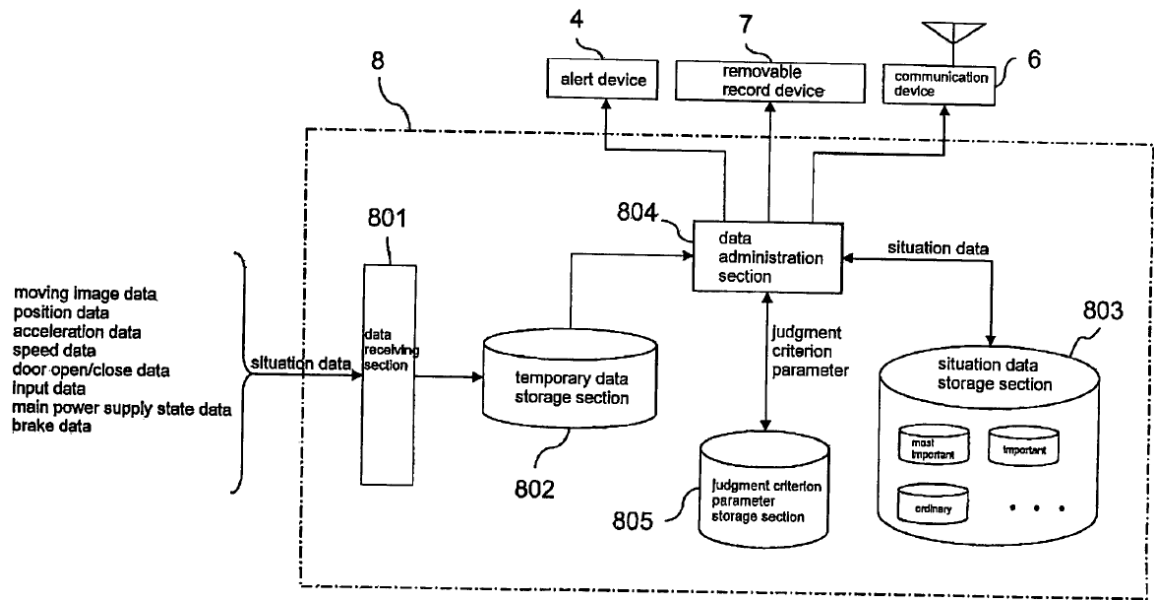


Figure 5 shows information processing device 8, which includes data receiving section 801, temporary data storage section 802, situation data recording section 803, and data administration section 804. *Id.* ¶¶ 31, 44.

Katayama discloses that “data administration section 804 determines whether or not the content of the situation data stored in the temporary data storage section 802 meets the predetermined condition,” and if so, the situation data is “transferred from the temporary data storage section 802 to the situation data recording section 803.” *Id.* ¶ 46.

4. *Tamir (Ex. 1006)*

Tamir discloses the collection of driving information from a plurality of vehicles and the evaluation of “driving behavior of a first vehicle based on information from at least one other vehicle or to a statistical analysis of multiple other vehicles.” *Ex. 1006*, 2:19–23. Tamir describes that in some embodiments, “samples are collected at a dynamically adjusted rate,” and the “rate of sampling is optionally determined according to the location of the driving, for example accumulating more samples at areas where there [are] many accidents or near intersections.” *Id.* at 9:10–20. Tamir further

describes that “when it is determined that the driver is driving relatively daringly, a higher sampling rate is used.” *Id.* at 20:62–21:1.

5. *Balachandran (Ex. 1007)*

Balachandran describes “enabling emergency call initiations in response to the detection of a vehicle accident.” Ex. 1007, code (57). More specifically, Balachandran relates to “the use of a cellular telephone for automatically initiating an outgoing call in response to a vehicle accident.” *Id.* at 1:6–9. Balachandran describes the importance of “automatically initiating an emergency call through a cellular telephone system in response to a vehicle accident without the need for subscriber initiation.” *Id.* at 1:27–29. Balachandran’s system “includes a plurality of sensors 10 strategically located about a vehicle to detect an accident involving the vehicle.” *Id.* at 2:19–21. In the event of an accident that warrants an emergency call, “the processor activates a timer 35 located within the cellular telephone 15,” and the “timer 35 provides a preselected time delay before initiating an outgoing emergency call in response to detection of a vehicle accident.” *Id.* at 2:50–56. An “audio or visual indication notifies the passengers of activation of the timer 35 and ceases with expiration or cutoff of the timer,” to provide “the passengers in the vehicle a period of time to gather their wits after an accident.” *Id.* at 2:56–60. “After the time delay period expires the processor 30 initiates emergency call setup.” *Id.* at 2:64–66.

6. *Thompson (Ex. 1008)*

Thompson is a university publication (“Institute for Software Integrated Systems, Vanderbilt University”) titled “Using Smartphones to Detect Car Accidents and Provide Situational Awareness to Emergency

Responders.” Ex. 1008, 1. Thompson relates to “contributions to the study of using smartphone-based accident detection systems” and provides: “solutions to key issues associated with detecting traffic accidents, such as preventing false positives by utilizing mobile context information and polling onboard sensors to detect large accelerations[;]” and “architecture of [a] prototype smartphone-based accident detection system[,]. . . its ability to resist false positives[, and] . . . its capabilities for accident reconstruction.” *Id.* at 1.

In its introductory discussion, Thompson states that “[b]uilding a smartphone-based wireless mobile sensor network for accident detection system is hard . . . because phones can be dropped (and generate false positives) and the phone is not directly connected to the vehicle.” *Id.* at 2. Thompson further states: “In contrast, conventional in-vehicle accident detection systems rarely incur false positives because they rely on sensors, such as accelerometers and airbag sensors, that directly detect damage to the vehicle.” *Id.*

Thompson’s solution is as follows:

Solution approach → Use onboard sensors and physical context information to detect car accidents. This paper shows how smartphones in a wireless mobile sensor network can capture the streams of data provided by their accelerometers, compasses, and GPS sensors to provide a portable “black box” that detects traffic accidents and records data related to accident events, such as the G-forces (accelerations) experienced by the driver.

Id. The solution includes the following “client/server” architecture and “WreckWatch” application:

We also present an architecture for detecting car accidents based on WreckWatch, which is a mobile client/server application we

developed to automatically detect car accidents. . . . [S]ensors built into a smartphone detect a major acceleration event indicative of an accident and utilize the built-in 3G data connection to transmit that information to a central server. That server then processes the information and notifies the authorities as well as any emergency contacts.

Id. “To address [the] challenge [of false positives], WreckWatch employs the following sensor-based and context filters: . . . WreckWatch is only enabled when plugged in[;] . . . [a s]peed filter determines whether users are in vehicles,” e.g., “begins recording accelerometer information . . . above 15mph[;] . . . [an a]cceleration filter prevents drops and sudden stops from triggering accident notifications,” e.g., “ignores any acceleration events below 4G’s.” *Id.* at 8.

7. *Willis (Ex. 1009)*

Willis generally relates to “a method of determining the proximity of a first radio frequency device to a second radio frequency device” and “a method for the control of a switch based on the proximity to each other of a first radio frequency device and a second radio frequency device.” Ex. 1009, 2:5–9. As an example, Willis discloses an embodiment that provides “proximity detection of the phone coming within 2 meters of the vehicle in any manner and from any direction.” *Id.* at 15:28–29.

8. *Berkobin (Ex. 1010)*

Berkobin’s disclosure relates to “determining driver behavior [by] receiving vehicle performance data, determining a driver safety metric based on the vehicle performance data, and transmitting the safety metric to a remote host.” Ex. 1010 ¶ 2. “[A]n embedded GPS and cellular transceiver . . . support real-time, remote driver and vehicle performance metrics.” *Id.* ¶ 21.

As an example, Berkobin's apparatus 101 includes vehicle mounted transceivers, e.g., for a PCS/Cell Modem 102. *Id.* ¶ 25. "Apparatus 101 can interface and monitor various vehicle systems and sensors to determine vehicle conditions." *Id.* ¶ 38. "[S]ubsystems can include a BlueTooth transceiver 115 . . . to interface with devices such as phones" and "user inputs[] such as emergency button 117 . . . caus[ing a] processor 106 to initiate a voice and data connection from the vehicle to a central monitoring station . . . referred to as a remote call center." *Id.* ¶ 44. "Data such as GPS location and occupant personal information can be transmitted to the call center." *Id.* Further, apparatus 101 "can transmit vehicle performance data upon a triggering event such as, but not limited to vehicle crash indication, acceleration above a threshold, speed above a threshold, and the like." *Id.* ¶ 54.

Additionally, Berkobin's central monitoring station 302 may comprise "one or more central monitoring station servers . . . as the 'back-bone' (i.e., system processing) of the present driver behavior determination system 300." *Id.* ¶ 51. The central monitoring station server may include software for data interpretations, statistics processing, data preparation and compression for output to apparatus 101, behavior determination, and driving report generation for output to users 303. *Id.*

E. Ground 1A - Obviousness Based on Curry, Rabu, and Katayama

Petitioner asserts that each of claims 1–4, 6, 9–12, 16–24, and 26 of the '369 patent would have been obvious over Curry, Rabu, and Katayama. Pet. 6–67. For the reasons discussed below, we are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing on this challenge.

1. Independent Claim 1

a. mobile telecommunication device [1.1], sensor set [1.2], user interface [1.3], and processor [1.4]

Independent claim 1 is generally directed to a mobile telecommunications device configured to log driving information associated with a vehicle, the mobile telecommunications device [1.1] including “a sensor set” [1.2], “a user interface” [1.3], and “a processor” [1.4]. Ex. 1001, 31:42–49. The sensor set comprises “an image sensor, an audio sensor, an accelerometer or a positioning module, or a combination thereof.” *Id.* at 31:45–47.

For these limitations, Petitioner contends that Curry’s client 110 processes “raw data” from a driving period to log driving activity and derive driving information associated with a user’s driving behavior. Pet. 28 (citing Ex. 1005, Abstract, 2:1–27, 3:1–4:11, 7:5–8:2, 8:20–10:26, 13:27–33, Fig. 1; Ex. 1003 ¶ 123). Petitioner refers to Curry’s Figure 1 that depicts Mobile Phone Client unit 110 on GPS-enabled mobile phone 106. *Id.* (citing Ex. 1005, Abstract, 2:22–27, 7:5–29, 8:21–27, Fig. 1). Petitioner asserts that Curry’s client 110 includes accelerometer 116 and GPS receiver 114 that are sensors. *Id.* at 28–29 (citing Ex. 1005, 3:2–15, 2:23–27, 7:24–8:2, 8:30–9:3, 10:16–26, 11:15–25, Fig. 1; Ex. 1003 ¶¶ 124–125). Petitioner further contends that Curry describes using the embedded accelerometer and positioning sensors to “detect and prevent unsafe driving behavior[s]”, and generate related “driving safety...score[s]” for determining insurance premiums. *Id.* at 6 (Ex. 1005, Abstract, 2:1–27, 3:24–4:6, 4:7–11, 7:5–22, 9:31–33, Fig. 1; Ex. 1003 ¶ 62).

Additionally, Petitioner contends that Curry's client unit 110 features a graphical user interface used to display data and to enable user interactions. *Id.* at 29. According to Petitioner, "Curry describes various examples of UI-enabled user interactions including receiving a phone call while driving, and manually switching activity modes." *Id.* (citing Ex. 1005, 7:5–27, 8:5–27, 9:5–26, 10:15–26, 12:20–26, 15:7–22, 20:23–25; Ex. 1003 ¶¶ 126–128).

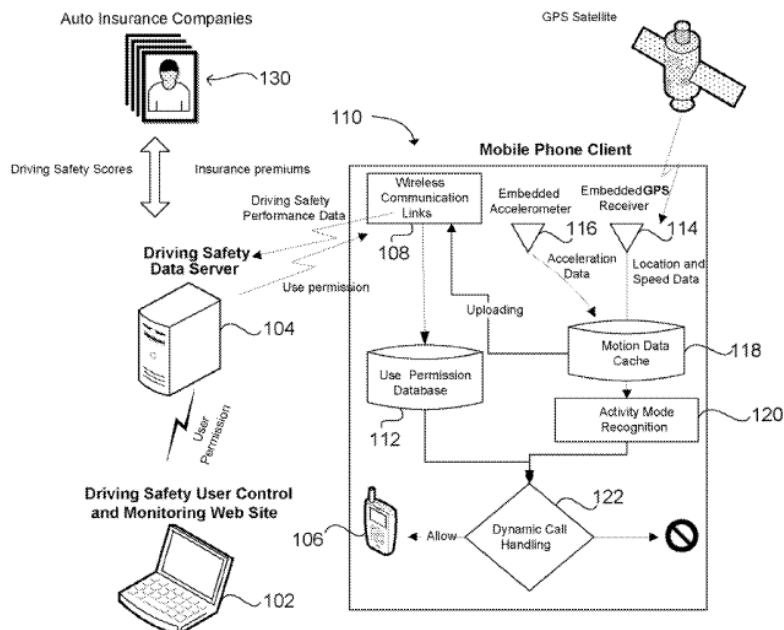
Petitioner further contends that Curry teaches a user can download software to the mobile phone to set up client unit 110 and that client unit 110 can record location, speed, and acceleration data from sensors to local motion data cache 118 for further processing. *Id.* at 30 (citing Ex. 1005, 3:24–26, 8:20–27, Fig. 1). Petitioner contends that a POSITA would have understood this disclosure to teach or suggest the existence of a processor within the phone. *Id.*; Ex. 1005, 2:22–27, 6:3–10, 8:20–27; Ex. 1003 ¶¶ 129–130.

Patent Owner contends that the Petition is deficient because it miscites Curry and does not particularly point out how the cited parts of Curry, Rabu, or Katayama map to the claim elements. *See* Prelim. Resp. 27–31. According to Patent Owner, the Petition and the Declaration of Dr. Michalson inconsistently cite Curry, which then places the burden on Patent Owner to figure out which sections of Curry are relied upon. *Id.* at 30.

To start, we observe that Curry, Exhibit 1005, has two sets of page numbers on the bottom of each page. Using the bottommost page number, we are able to locate the disclosure of Curry referenced in the Petition. Nonetheless, we discern that both the Petition and Dr. Michalson's

declaration cites, at times, to the other page number. *See* Ex. 1003 ¶ 90. However, there are *only two sets* of page numbers at the bottom of Exhibit 1005. To the extent there are inconsistencies with Petitioner's citations in the Petition and Dr. Michalson's declaration, we are not persuaded that these are of such quality or quantity that renders the Petition fatally deficient. Indeed, the panel is able to review the arguments and evidence in the Petition based on one or the other set of page numbers. Separately, we note, the Patent Owner's Preliminary Response substantively addresses the Petition, which further indicates that Patent Owner has also reviewed the arguments and evidence presented in the Petition and has been able to respond to the same (including the cited testimony of Dr. Michalson).

In addition, based on our review of the preliminary record, we determine that Petitioner has adequately mapped and explained how the cited portions of Curry teach limitations [1.1]–[1.4]. For example, Curry's Figure 1, reproduced below, illustrates shows an exemplary embodiment of Curry's system.



In Figure 1, data server 104, user control web site 102, and mobile client unit 110 on GPS-enabled mobile phone 106 (e.g., mobile telecommunications device), with GPS 114 and accelerometer 116 sensors (e.g., sensor set), and wireless connection 108. Ex. 1005, 7:30–8:23. Curry further teaches the storing of information from GPS and accelerometer sensors in the mobile device, such as location, speed, and acceleration, and the use of this information to calculate a driver safety statistic, based on when and where the wireless computing device was used and the motion of the device. *Id.* at 3:6–30. Curry further discloses that the “mobile device control module can be downloaded and operated on the wireless device.” *Id.* at 3:13–14 (emphasis added). And, Curry teaches that “[m]odules may also be implemented in software for execution by various types of processors.” *Id.* at 7:3–5. Additionally, Dr. Michalson testifies (with quotes from Curry) that

[a] POSITA would have understood and found obvious that Curry’s phone 106 includes a user interface. USAA-1005, 8:5-18. For example, Curry notes that a “graphical user interface” can be installed on a “smart phone,” indicates that the “graphical user interface” can be “configured to display the driver motion data cache, the user permission data, and the driver safety statistic to . . . selected individuals,” and additionally describes various examples of user interactions with a phone that a POSITA would have understood to be enabled through a user interface. USAA-1005, 8:5-27 (“A user can download the required software from the server 104 to the mobile phone 106 to set up the client unit on the phone”), 21:23-25, 9:5-11 (“the mobile phone . . . may be used while driving, walking or remaining still”), 9:13-20 (“[t]he phone can . . . signal to the driver . . . so that the driver can decide whether to . . . take [a] call or call back later”), 10:15-26 (“[i]f the status of the mobile phone user is recognized as driving, the mobile phone can automatically switch to the GPS navigation mode”).

Ex. 1003 ¶ 126 (emphasis added).

We further note that Patent Owner contests Petitioner's reasons for the combination of Curry, Rabu, and Katayama for other limitations recited in independent claim 1. Prelim. Resp. 27–60. We address those arguments in the sections below.

- b. determine, based on at least one of the inputs received by the user interface and sensor data from the device's sensor set, a start of a driving period during which the mobile device is removably attached to the vehicle and the vehicle is in use [1.6] and process the sensor data from the sensor set during the driving period to derive driving information associated with how the vehicle is driven [1.7]*

Claim 1 also requires that the mobile telecommunications device is configured to “determine, based on at least one of the inputs received by the user interface and sensor data from the device's sensor set, a start of a driving period during which the mobile device is removably attached to the vehicle and the vehicle is in use.” Ex. 1001, 31:53–57.

In addition, claim 1 requires that the mobile telecommunications device is configured to “process the sensor data from the sensor set during the driving period to derive driving information associated with how the vehicle is driven.” *Id.* at 31:58–60.

i. Petitioner's Contentions

For these limitations, Petitioner asserts that Curry's client 110 enables phone 106 to determine, “based on user inputs (e.g., accepting phone call, manually changing activity modes) and sensor data (e.g., ‘location, speed, and acceleration data’) whether an associated vehicle is being driven.”

Pet. 32 (citing Ex. 1005, 6:5–22, 8:5–11, 7:30–8:33, 12:20–13:26, 15:7–22, Fig. 3; Ex. 1003 ¶ 142).

Petitioner explains that Curry’s phone determines a start of a driving period when the phone is located within a moving vehicle, “based on user inputs received through the phone’s user interface (e.g., a user accepting a phone call, or manually switching between activity modes using the phone’s touch screen and GUI) and motion sensor data generated by a phone’s embedded accelerometer.” *Id.* at 31.

Petitioner further argues that Curry discloses two modes of operation: (1) a “communication” operating mode that allows for normal phone usage and (2) “a GPS monitoring/navigation” mode that restricts calling, texting, and/or software capability on phone 106 to promote driving safety. *Id.* at 12–13 (citing Ex. 1005, 9:15–10:14, 12:20–15:22, Figs. 3–4). Petitioner explains that Curry’s phone 106 may switch between the operating modes based on the driving activity. *Id.* at 12–13 (citing Ex. 1005, 12:20–13:4, 15:18–22; Ex. 1003 ¶ 89). For example, Petitioner argues that “Curry further suggests correlating different activity modes with different operating modes, and accounting in nuanced ways for phone usage context when determining driving scores and phone usage restrictions.” *Id.* at 13 (citing Ex. 1005, 2:3–28, 15:8–16:33; Ex. 1003 ¶ 90).

Additionally, Petitioner contends that Curry’s activity mode recognition module 306 uses recorded time stamped data to estimate the type of activity (e.g., driving, walking, running or remaining substantially still) in real-time to allow users to receive or make a call, text, or use software programs. Pet. 35–36 (citing Ex. 1005, 12:20–13:26, Fig. 3; Ex. 1003 ¶ 149). Petitioner adds that a POSITA would have found it obvious to

process sensor data during the driving period to derive possible violations of mobile phone use or unsafe driving behavior. *Id.* at 37 (citing Ex. 1005, 7:5–22, 8:29–10:12, 11:3–14, 13:20–16:6, Figs. 1, 3; Ex. 1015, 233–250; Ex. 1003 ¶¶ 150–152).

Petitioner further asserts that Rabu teaches an accelerometer in a PMD, to determine whether the PMD is docked, resting on a surface, being handled by a person, or located in a moving/stationary vehicle. *Id.* at 8 (citing Ex. 1013, Abstract, 1:1–52, 1:60–2:11, 3:11–28, 6:49–7:6, Figs. 1–8). Petitioner adds that Rabu uses these determinations to choose modes of operation for the PMD to promote driver safety. *Id.* (citing Ex. 1013, 1:53–59, 8:13–10:42, Fig. 5; Ex. 1003 ¶¶ 65, 69).

Petitioner explains that a POSITA would have configured Curry's phone with Rabu's dock-status sensing and associated mode-shifting capabilities to thereby enhance Curry's ability to promote safe driving. *Id.* at 11 (citing Ex. 1003 ¶ 87). Petitioner contends Rabu describes leveraging a conventional accelerometer like Curry's to determine a phone's orientation angle and motion status, for purposes of discerning phone usage context, and changing the phone's operating mode to appropriately account for that context. *Id.* at 13–14 (citing Ex. 1013, 3:1–10, 4:21–33, Figs. 1, 4; Ex. 1003 ¶ 92). Additionally, Petitioner provides several specific reasons why it would have been obvious to enhance Curry's system based on Rabu's teachings:

1. increased user tolerance for Curry's monitoring mode, based on safe but user-friendly levels of restrictions enabled through determination of docking status (USAA-1003, ¶ 97; USAA-1005, 7:5–22, 8:5–18, 11:3–14; USAA-1013, 1:36–2:14);
2. increased likelihood of user participation in Curry's monitoring mode, with correspondingly improved safety

(USAA-1003, ¶ 111; USAA-1005, 7:5-22, 8:5-18, 11:3-14; USAA-1013, 1:36-2:14);

3. enhanced reliability of motion detection and related determinations based on data obtained from sensors within a docked phone relative to an undocked phone (USAA-1003, ¶ 99; USAA-1005, 3:24-4:6, 7:5-22, 8:23-28; USAA-1013, 2:61-3:10, 3:46-4:3, 5:61-6:21; USAA-1012, 59:34-43);

4. generation of more nuanced user driving scores taking into account usage violations related to docking status (USAA-1003, ¶ 100; USAA-1005, 7:5-22, 9:31-33, 10:3-12, 11:3-14, 13:3-19; USAA-1013, 2:61-3:10, 3:46-4:3, 5:61-6:21); and

5. enhanced utility for third parties in leveraging more nuanced driving scores in, for example, determining insurance premiums (USAA-1003, ¶ 100; USAA-1005, 4:7-11, 7:5-22, 10:3-12, 11:26-12:2; USAA-1013, 2:61-3:10, 3:46-4:3, 5:61-6:21).

Id. at 15–16 (citing (Ex. 1003 ¶ 101).

ii. Patent Owner’s Contentions

Patent Owner makes four main arguments. These are: (1) Petitioner “does not clearly and completely map portions of Curry and/or Rabu and/or Katayama to every element of the claims in any section of the Petition,” (*see* Prelim. Resp. 28, 35–36); (2) Petitioner has provided insufficient rationale to combine Katayama with Curry and Rabu because Petitioner’s rationales are generic and conclusory, (*id.* at 39–50); (3) Petitioner’s rationales to combine Curry and Rabu are based on impermissible hindsight (*id.* at 38–39, 50–55); and (4) Curry, Rabu, and Katayama teach away from the ’369 patent (*id.* at 55–60).

iii. Discussion

For the purposes of institution, Petitioner has sufficiently explained with supporting evidence how the combination of Curry and Rabu teaches or suggests this limitation.¹⁰

As discussed above, Curry’s system includes a mobile client unit 110 on GPS-enabled mobile phone 106, with GPS 114, accelerometer 116 sensors, and wireless connection 108. Ex. 1005, 7:30–8:23. Curry teaches that “[b]y utilizing GPS and accelerometer sensors embedded in mobile phones to monitor driving safety performance, an integrated and economical solution can be created to detect and prevent unsafe driving.” *Id.* at 7:5–8. Curry further discloses that a “monitoring mode” may be activated by the user, such as by receiving or making a call. *Id.* at 13:20–25. During this monitoring period, Curry’s “GPS receiver 314 can collect location and speed data of the mobile device . . . [and] accelerometer 316 can collect acceleration/deceleration data in different axes.” *Id.* at 13:27–29. Curry adds that “[e]ach motion measurement from the GPS sensor and accelerometer can be associated with a timestamp, and stored in a local motion data cache 304 for each pre-specified sampling interval.” *Id.* at 13:29–31. In addition, referring to Figure 4, Curry teaches that

[r]ight after an *incoming phone or text message is received or an outgoing phone call is made, the GPS sensor and accelerometer can start to record a motion time series*. Regardless if the phone communication process (i.e. phone call or text message) is complete or not, the sensors can continue to collect the data for

¹⁰ Petitioner relies upon Katayama for limitations regarding the long term and short term memory features recited in independent claim 1. *See* Pet. 30 (discussing limitation [1.5]), 41–51 (limitations [1.10]–[1.13]). We address Patent Owner’s arguments regarding Katayama in combination with Curry and Rabu in the sections pertaining to those limitations.

an extended time period, e.g. 6 minutes, to determine the type of the current activity.

Id. at 16:8–13 (emphasis added).

Based on at least this disclosure, we agree with Petitioner that taking an incoming phone call, texting a message, or placing an outgoing phone call, as Curry describes, teaches or suggests “inputs received by the user interface” as recited in claim 1. *See* Pet. 31 (“Curry describes multiple embodiments in which a phone determines a start of a driving period during which the phone is located within a moving vehicle, based on user inputs received through the phone’s user interface (e.g., a user accepting a phone call, or manually switching between activity modes using the phone’s touch screen and GUI) and motion sensor data generated by a phone’s embedded accelerometer.”). Moreover, we agree that Curry’s monitoring mode may be activated by one of these user actions and the “sensor data from the device’s sensor set” that is in the form of GPS and accelerometer data. *See* Ex. 1005, 16:8–13.

Patent Owner contends that Curry’s monitoring mode is triggered by a phone call being received or made, regardless of driving status. Prelim. Resp. 35–36 (citing Ex. 1005, 12:20–26). Patent Owner contends that a POSITA would not understand the start of a driving period could be triggered by a phone call and that Curry’s “receipt of a call is not determined by a sensor, but rather by the communications module being activated.” *Id.* at 36. Patent Owner adds that if “a phone call is never received or made, Petitioner’s Curry-Rabu-Katayama device would never record the start of a driving period.” *Id.* at 37.

Based on the preliminary record, we consider Patent Owner’s reading of Curry to be too narrow. As discussed, Curry teaches the use of GPS and

accelerometer sensors embedded in mobile phones “to monitor *driving* safety performance” and provide “an integrated and economical solution . . . to detect and prevent unsafe *driving* behavior such as talking on or texting with mobile phones *while driving*.” Ex. 1005, 7:5–6 (emphases added). Curry expressly discloses that the features described in the reference apply to monitoring driving and driving safety. That being the case, we are not persuaded by Patent Owner’s assertion that a POSITA would consider Curry to lack “a start of a driving period” because a phone call may never be placed or received. *See* Prelim. Resp. 37. Rather, Curry specifically teaches that a phone call may be placed or received during the driving of a vehicle, which then activates the monitoring mode.

We are also not persuaded that a phone call is excluded from the scope of claim 1. *See id.* at 37–38 (“[T]he combination would defeat the ’369 patent’s purpose of continuously ‘process[ing] the sensor data from the sensor set during the driving period to derive driving information . . . ,’ which is used to gather real-time data for correlation with and plotting against a visual map anytime a user wishes to capture a recording.”). Patent Owner does not direct us to where or how the language of claim 1 supports its position. Patent Owner does point to limitation [1.7], which recites “process the sensor data from the sensor set during the driving period to derive driving information associated with how the vehicle is driven.” Ex. 1001, 31:58–60. Nonetheless, limitation [1.7] does not recite “continuously,” and only requires that the sensor data is processed during the driving period. As explained by Petitioner, Curry teaches that the monitoring mode begins when a phone call is placed or received during driving. Ex. 1005, 16:8–13. Thus, at this stage, Petitioner has sufficiently explained that a phone call

either placed or answered provides a user interface input that is used with GPS and accelerometer sensors to start the recording of a “motion time series.” *Id.* at 16:8–10. Nonetheless, to the extent that there is a disagreement regarding claim scope or construction, the parties are invited to brief this issue during the trial.

Next, we determine that Petitioner has sufficiently explained that Rabu teaches the limitation “the mobile device is removably attached to the vehicle and the vehicle is in use” because (1) Rabu’s PMD can be docked and undocked to a holder on a vehicle; (2) holder status can be calculated based on orientation angle; (3) the PMD can determine if the PMD is in a moving vehicle; and (4) the PMD selects a mode of operation based on the holder motion status.

In particular, Rabu teaches that a PMD may have a holder status, which can indicate how the PMD is being held and whether the PMD is in motion. Ex. 1013, 2:52–60. Rabu discloses that

the PMD can determine holder status by calculating the orientation angle of the PMD with respect to a surface, e.g., ground, dock, etc. The value of the orientation angle can be used to determine the holder status. In some embodiments, the PMD can determine a frequency spectrum associated with its current motion based on inputs from the accelerometer and the gyroscope. Based on the determined frequency spectrum, the PMD can determine whether it is in a moving vehicle, in a stationary vehicle, being held by a moving person, or being held by a stationary person.

Id. at 1:66–2:8 (emphases added). Referring to Figures 1–3, Rabu further teaches that a PMD may be configured to connect to a dock (e.g., automobile dock, vehicle holder) and that the orientation angle of a PMD “when it is being held by a person will be different than the orientation angle

when PMD 100 is docked in a dock.” *Id.* at 3:38–41, 3:59–67. Rabu further teaches that the PMD selects modes of operation based on the holder motion status. *Id.* at 2:8–11, Fig. 5.

In addition, Petitioner’s expert Dr. Michalson explains that

[t]o further promote safe driving, Curry suggests correlating different activity modes (e.g., stop, driving) with different operating modes (e.g., different levels of restrictions on phone use), and accounting for the context of phone usage when generating a driving score for a particular driver. USAA-1005, 2:3-3:28, 15:8-16:33. For example, in one embodiment, Curry contemplates an all-or-nothing approach to restrictions on phone activity when phone 106 is placed in a monitoring operating mode, [and] it elsewhere recognizes that such an approach is not always appropriate, and that it can be better to correlate different driving contexts with different phone restrictions. USAA-1005, 2:3-3:28, 15:8-16:33.

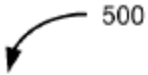
Ex. 1003 ¶ 90. Dr. Michalson further testifies that a POSITA would have looked to Rabu for a more nuanced approach because “Rabu’s defined modes of operation include appropriate levels of restrictions on phone use.” *Id.* ¶ 94. According to Dr. Michalson, if Rabu’s phone “is being held by the driver,” then it can “prevent the driver from sending or receiving text messages while driving.” *Id.* (citing Ex. 1013, 12:38–43). Or, if “the phone is held within a dock located within the vehicle, a POSITA would have found it obvious to decide to change the phone’s mode of operation to one involving relatively fewer restrictions to phone use.” *Id.* (citing Ex. 1013, 3:1–10, 4:21–33, 6:39–43, Figs. 1, 4). Dr. Michalson further explains that

[t]he Curry-Rabu combination would have increased user tolerance for Curry’s monitoring techniques. USAA-1005, 7:5-22, 8:5-18, 11:3-14; USAA-1013, 1:36-2:14. For example, Rabu’s docking status enabled a determination of when a phone is docked within a moving vehicle, which can then be inferred to mean that a user is not presently using the phone for texting when

the vehicle is being driven. Rabu's docking status would have also improved Curry's use of an estimated context of mobile phone use in identifying unsafe driving behaviors. For example, knowing the docking status would have enabled differentiation between (i) a user holding and using the phone while driving and (ii) using the phone while docked and while driving. The second scenario in this example is less likely to distract the user and less likely to be determined to represent an unsafe driving behavior.

Id. ¶ 97.

Based on the preliminary record, Dr. Michalson's testimony is consistent with the disclosures of Curry and Rabu. For example, Curry contemplates switching between communication mode and GPS mode depending on the complexity of the driving conditions. Ex. 1005, 15:19–21. Curry further discloses that commercial fleet drivers may need to communicate with dispatchers or other drivers using a cell phone while driving. *Id.* at 14:8–10. Rabu specifically addresses the need for a multi-modal approach for PMDs. For example, Rabu's Figure 5 is reproduced below:



PMD Modes	Description
A	PMD handheld while located in a moving vehicle.
B	PMD resting in a moving vehicle
C	PMD handheld while person is in motion.
D	PMD docked in a moving vehicle
E	PMD docked in a desktop dock and stationary
F	PMD resting on a stationary surface
G	PMD docked in a stationary vehicle

FIG. 5

Figure 5 is a table listing various modes of operation of Rabu's PMD. Ex. 1013, 2:28–30. As shown in Figure 5, Rabu teaches PMD modes A

through G, each mode selected based on the motion status of the PMD. *See id.* at 5:53–56.

Patent Owner contends Petitioner provides insufficient, conclusory rationale or relies solely on impermissible hindsight for the asserted combination. *See* Prelim. Resp. 40–55. For example, Patent Owner contends that the “Petitioner’s rationale of enhancing Curry’s phone’s ‘to promote safe driving’ and creating ‘a device with added functionality’ are generic and nothing but conclusory statements that the combination ‘would have been obvious.’” Prelim. Resp. 41; *id.* at 42 (“Petitioner states what a POSITA could have done by combining Curry and Rabu, but fails to provide sufficient rationale, beyond generic statements drawing on nothing but hindsight, for why a POSITA would have been motivated to combine Curry and Rabu.”); *id.* at 44 (“Petitioner argues that the individual elements were known in the cited prior art references and that combining those references would have yielded the claimed invention, Petitioner does not sufficiently explain *why* a POSITA would have combined those elements in the claimed manner.”). According to Patent Owner, “as to combining Curry and Rabu, Petitioner argues, without evidence, ‘[t]he POSITA would have found obvious that enhancing Curry’s system based on Rabu would introduce multiple additional advantages’ and further lists generic advantages. Pet. at 15-16 (citing USAA-1003, ¶¶ 96-100, which includes the same list without specific citations to Curry or Rabu suggesting needed improvements).” *Id.* at 46.

As discussed, we determine that Petitioner has explained in detail that Curry discloses situations in which mode switching may be appropriate and that a POSITA would have looked to Rabu’s multi-modal, dockable PMD to

provide a driver more options for switching between modes to achieve better user compliance/tolerance. Ex. 1005, 16:8–21; Ex. 1013, Fig. 5; Ex. 1003 ¶¶ 103, 110.

Patent Owner contends that “[w]hile this statement may identify what might be gained by the combination, it provides absolutely no motivation for the combination other than impermissible hindsight.” Prelim. Resp. 46. Yet, Patent Owner does not adequately explain why we must ignore the advantages and benefits that Petitioner asserts a POSITA would understand results from addressing a problem identified in Curry with features disclosed in Rabu’s system. Rather, at this stage, between the parties, Patent Owner’s arguments are the more conclusory of the two.

Moreover, we note that Petitioner’s arguments are supported by Dr. Michalson’s testimony that “configuring Curry’s systems to leverage Rabu’s teachings would have required only routine programming knowledge, which was well within the skill of a POSITA prior to the earliest effective filing date.” Ex. 1003 ¶ 102. Dr. Michalson asserts that “Rabu and Curry both use the same type of hand-held phone and contain the same types of internal sensors (GPS, accelerometers)” and “the change would have amounted to nothing more than the use of a known technique to improve similar devices—in each instance a smart phone equipped with a generic accelerometer—in a similar way, and combining prior art elements according to known methods to yield the predictable results described above.” *Id.* In this regard, we also understand Dr. Michalson’s testimony to support the notion that a POSITA would have had a reasonable expectation of success for achieving the asserted modification. *See* Ex. 1003 ¶ 103. As such, Dr. Michalson’s opinion supports Petitioner’s position that a POSITA

“could have done it.” Indeed, that is the point of the testimony, which complements Dr. Michalson’s statements elsewhere detailing the advantageous reasons for why a POSITA “would have done it.” *See id.* ¶¶ 95–102.

Patent Owner further argues that “[w]hereas Rabu requires the use of frequency data to make these specific distinctions and determinations, such use of frequency data would have been considered not only unnecessary but technically overkill by a POSITA, both for the ’369 patent and for Curry.” Prelim. Resp. 52–53. Patent Owner contends that the ’369 patent and Curry have “no need for the use of frequency data like Rabu does” because Curry teaches “receiving GPS data only when a phone call is received or made, while in a driving mode, to mitigate the power burden of always-on GPS while permitting or restricting phone use based on the driving mode.” *Id.* at 53–54. Patent Owner adds that Curry teaches away from the combination with Rabu because Curry seeks to reduce power consumption by turning off the GPS when the mobile phone is in standby mode or is not charged. *Id.* at 56–57 (citing Ex. 1005, 3:2–4:28, 14:28–15:7).

Patent Owner further contends that “[n]othing in Curry suggests that using the frequency spectrum of Rabu to determine how a vehicle is being driven would instead be better than using always-on GPS or other positioning for mitigating Curry’s cited power consumption issues such that it would make technical sense to put Curry and Rabu together to arrive at the ’369 Patent.” *Id.* at 57. Patent Owner also contends that a POSITA would have been discouraged to combine Curry with Rabu because Rabu’s frequency spectrum positioning determination would likely require even

more processing power than Curry's system alone. *Id.* at 57–58 (citing Ex. 1013, 4:15–5:14).

Based on the preliminary record, we do not agree that Curry teaches away from the proposed combination. Here, Curry teaches that the GPS receiver in the mobile phone is “typically turned off by default when a mobile phone is in standby mode or . . . is not charged.” Ex. 1005, 14:28–30. Curry teaches this reduces battery consumption because the GPS receiver is re-activated only right after a phone call is made or received. *Id.* at 14:32–33. Curry also teaches that this approach causes delays and problems with reliability. Specifically, Curry discloses that

[i]f the position of the current phone call is different from the position of the previous phone call, which is most likely to occur for a talking-while-driving user, then the *GPS receiver needs a cold start, which takes about from 30 seconds to 2 minutes*. If the user only takes a couple of seconds to answer the phone call or view the text message, after the communication process completes, *the GPS sensor may . . . not [have] received any reliable GPS location data yet, or may not have sufficient data to make a high quality estimation for user activity mode*.

Id. at 14:33–15:7 (emphases added). In other words, Curry discusses both the advantages and disadvantages of turning the GPS receiver off when the phone is not in use. Curry does not discourage or discredit the “always-on” GPS mode. *Id.* at 14:30–32. Rather, Curry merely discusses alternative ways to operate the GPS, including the benefits of reduced power consumption offset by the issues of delays and compromised reliability. *Id.* “[A] reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *In re Mouttet*, 686 F.3d 1332,

1333–34 (Fed. Cir. 2012). “[T]he ‘mere disclosure of alternative designs does not teach away.’” *Id.* at 1334. “[J]ust because better alternatives exist in the prior art,” the Federal Circuit has explained, “does not mean that an inferior combination is inapt for obviousness purposes.” *Id.*

Patent Owner further contends that a POSITA would not have looked to Rabu for insight to arrive at the ‘369 claims because the use of frequency spectrum data to determine motion and orientation of a phone would not have been necessary to arrive at the claims of the ‘369 patent. Prelim. Resp. 57 (citing Ex. 1001, Abstract). According to Patent Owner, “the frequency spectrum technology would have been considered excessive by a POSITA at the time of the ‘369 invention.” *Id.*

We note initially that Patent Owner has offered little evidence on this point beyond attorney argument. *Id.* at 57. On the other hand, for the purposes of institution, Petitioner has articulated a reasoned explanation why a POSITA would have been motivated to modify Curry’s wireless device with Rabu’s device holder and multi-modal operation features. For example, Petitioner has explained in detail that Curry contemplates the need for multi-modal operation for nuanced driving conditions and that Rabu discloses methods for doing so. *See* Ex. 1005, 15:8–31; Ex. 1013, Fig. 5. Moreover, as discussed, Petitioner has provided citations to the references along with corroborating testimony from Dr. Michalson that support its arguments for why and how a POSITA would have combined the prior art disclosures with a reasonable expectation of success. *See* Ex. 1003 ¶¶ 87–103. Thus, for the purposes of institution, Petitioner’s position is better supported by the preliminary record. The parties are, however, encouraged to develop the record on these issues during trial.

c. wherein the driving information is derived without data from the vehicle sensors [1.9]

Claim 1 further recites “wherein the driving information is derived without data from vehicle sensors.” Ex. 1001, 31:63–64.

Petitioner argues that Curry’s wireless device processes sensor data during a driving period to derive driving information. Pet. 40–41 (citing Ex. 1003 ¶ 158; Ex. 1005, 7:5–22, 8:29–10:12, 13:20–16:6, Fig. 1). Additionally, Petitioner argues that “[a] POSITA would have found it obvious to configure a Curry-Rabu-Katayama phone to derive driving information based on its recorded sensor data alone when considering Curry’s disclosures of data obtained by embedded sensors (e.g., accelerometer 116) being used to derive the driving information.” *Id.* (citing Ex. 1003 ¶ 160; Ex. 1005, Abstract, 2:1–27, 3:24–4:11, 7:5–22, 8:29–10:12, 13:20–16:6, Figs. 1, 3).

Patent Owner relies largely on arguments and evidence discussed above with respect to limitations 1.6 and 1.7. However, Patent Owner further contends “Petitioner erroneously suggests that Curry’s silence on a particular topic or feature somehow provides sufficient reason for a POSITA to have searched out Rabu.” Prelim. Resp. 48. Patent Owner also contends that Petitioner speculates Curry’s “lack of any suggestion” creates a “specific motivation” to use device sensor data instead of vehicle sensor data. *Id.* at 48–49.

For the purposes of this Decision, we determine Petitioner has provided adequate reasoned explanations with citations to evidence that support its position. Curry teaches expressly that “[a]n embedded accelerometer and a GPS receiver are included in the wireless device.”

Ex. 1005, 3:6–7. Curry further teaches that “[w]hen a call is made or received using a mobile phone 106, the mobile phone client 110 can record location, speed and acceleration data from sensors *embedded* in the wireless device, such as a GPS sensor 114 and accelerometer 116.” *Id.* at 8:30–33 (emphasis added). The data from the embedded device sensors are recorded in the motion data cache 118 and used by user activity mode recognition program 120 to determine the “context of the mobile phone use.” *Id.* at 9:6–7. Based on the express disclosure, Dr. Michalson testifies that Curry focuses “on leveraging motion data obtained from sensors embedded in the mobile phone (e.g., accelerometer 116, GPS receiver 114) to derive the driver safety information.” Ex. 1003 ¶ 161 (citing Ex. 1005, Abstract, 2:1–27, 3:24–4:11, 7:5–22, 8:29–10:12, 13:20–16:6, Figs. 1, 3). As such, Dr. Michalson asserts “a POSITA would have understood there to be no need to use data from vehicle sensors to derive Curry’s driving information because its phone includes all of the necessary sensors, processing, and memory to derive the driving information.” *Id.*

At this stage, we do not find Petitioner’s position to be solely based on impermissible hindsight, conclusory statements, or speculation. As discussed above, Dr. Michalson’s testimony is consistent with and supported by Curry’s express disclosure. Nonetheless, the parties are encouraged to fully develop the record on this issue during trial.

d. memory [1.5], store a selection of the driving information to the memory [1.8], the memory comprises: a long term memory for persistently storing driving information and a short term memory for transiently storing driving information [1.10]

Claim 1 further recites that the mobile telecommunications device contains memory [1.5] and that the mobile telecommunications device is configured to “store a selection of the driving information to the memory” [1.8], and that that memory includes “a long term memory for persistently storing driving information and a short term memory for transiently storing driving information” [1.10]. Ex. 1001, 31:50, 31:61–67.

i. Petitioner’s Contentions

To start, Petitioner asserts that Katayama describes a “driving recorder” that records “situation data” that indicates the “surrounding situation or the like of a motor vehicle during a certain period before and after a time of an accident or . . . risk incident” in which “a driver . . . is close to [being] involved in an accident” Pet. 17 (citing Ex. 1024 ¶¶ 1, 11, 58; Ex. 1003 ¶ 70). Petitioner further asserts Katayama’s driving recorder includes internal member 82 that features “temporary data storage section 802” (short term memory) and “situation data storage section 803” (long term memory). *Id.* at 20 (citing Ex. 1024 ¶ 44). Petitioner adds that

[t]o avoid erasing situation data that might prove useful, [Katayama’s] data administration section 804 determines at the “time of recording” whether temporarily stored situation data meets one or more predetermined criteria for long term storage. . . . If so, the recorded situation data is, for example, classified with an identifier marking it as “important,” and then transferred with the identifier to long term “situation data recording section 803. . . .” In contrast, situation data that is marked with an

identifier as less than important remains in temporary storage until eventually overwritten.

Id. at 21 (citing Ex. 1024 ¶¶ 1–2, 11–16, 27, 46–50, 54, 83; Ex. 1003 ¶ 76).

Petitioner further contends Curry stores information derived from processed sensor data (“selection of driving information”) to memory (e.g., motion data cache 118, local memory) (“memory”) prior to transmission (e.g., to driving safety data server 104). Pet. 38 (citing Ex. 1003 ¶ 154; Ex. 1005, 7:5–22, 8:29–10:12, 13:20–16:6, Figs. 1, 3). Petitioner adds that a POSITA would have recognized that a plurality of “selections” of driving information representing specific driving behaviors may be preserved through storage in long-term memory, similar to Katayama’s storage of “important” situation data in its “situation data recording section.” Pet. 38 (citing Ex. 1024 ¶¶ 44–46; Ex. 1003 ¶ 154).

With respect to limitation [1.10], Petitioner further contends that a POSITA would have configured the Curry-Rabu-Katayama phone’s local memory to include a temporary short term memory section and a long term memory section. Pet. 41 (citing Ex. 1024 ¶ 44; Ex. 1005, 6:11–20).

Petitioner argues that

the POSITA would have understood and found obvious that both the digitalized “situation data” transiently stored in the Curry-Rabu-Katayama phone’s short term memory section and the digitalized “situation data” persistently stored in the Curry-Rabu-Katayama phone’s long term memory section are derived by processing sensor data received during a driving period (e.g., the driving period discussed above in connection with [1.6]), and constitute “driving information” associated with how a vehicle is driven.

Id. at 43 (citing Ex. 1024 ¶¶ 1–2, 11–16, 27, 46–50, 54, 83; Ex. 1003 ¶ 168).

Petitioner asserts that a POSITA would have modified Curry’s device to

“record situation data determined to be ‘important’ with a metadata ‘identifier’ marking it as such, and to transfer situation data with that identifier from the local memory’s temporary storage to its long term recording section.” *Id.* at 42–43 (citing Ex. 1024 ¶¶ 1–2, 11–16, 27, 46–50, 54, 83; Ex. 1003 ¶ 166). Petitioner asserts that Curry, modified by Katayama, would retain “important situation data” to enable “after-the-fact analysis” of, for example, accidents and risk incidents, and would for at least that reason be understood as being “*persistently*” stored. *Id.* (citing Ex. 1024 ¶¶ 1, 27, 46–52). Petitioner contends that

a POSITA would have recognized that important information stored in Curry’s local memory is subject to the risk of being inadvertently erased and overwritten with new data, and would have recognized in Katayama’s teachings a solution that could be readily applied in the context of the Curry-Rabu phone: partition of the local memory into temporary and long term sections, with storage of information identified as important in the long term section. . . .

Further, *a POSITA would have recognized that configuring the Curry-Rabu phone’s memory in this manner while applying Katayama’s related data storage techniques would “enable[] effective use of the memory without erasing important situation data” and “eliminat[e] accumulation of useless data,” while at the same time furthering Curry’s goals of “detect[ing] and prevent[ing] unsafe driving behavior[s]” by enabling the Curry-Rabu phone to detect both accidents and “risk incidents.”*

Id. at 23–24 (citing Ex. 1003 ¶¶ 113–114; Ex. 1024 ¶¶ 1–2, 16, 44–51, 53, 57; Ex. 1005, Abstract, 2:1–27, 3:24–4:11, 7:5–22, 9:31–33, Fig. 1) (alterations in original) (emphases added).

ii. Patent Owner's Contentions

Patent Owner contends that Katayama does not teach “a long term memory for persistently storing driving information” because both temporary data storage section 802 and situation data storage section 803 overwrite information. Prelim. Resp. 19. Patent Owner asserts that

Katayama discloses that, thereafter, “situation data storage section 803” may overflow with too much data, and data categorized as “Ordinary” may be overwritten (i.e., making it short term data, because it is not persistent). *See* USAA-1024, [0055]. . . . Katayama throws away data in “situation data storage section 803,” which Petitioner incorrectly alleges to be the same as the “long term memory” of the ’369 patent. Katayama’s “situation data storage section 803” mixes long term and short term data and erases part of “situation data storage section 803” as needed.

Id. at 20. Patent Owner further contends that paragraph 55 of Katayama discloses that situation data storage section 803 may automatically erase data. *Id.* at 33; *see also id.* at 34 (“[P]art of what Petitioner is calling long term storage in Katayama is configured to be erased if it fills up, Katayama does not read on Claim 1 of the ’369 patent.”).

With regard to the combination of Katayama with Curry and Rabu, Patent Owner also argues that “Rabu’s teachings are contrary to the way Katayama works.” Prelim. Resp. 34. According to Patent Owner, this is because Rabu does not “mention discounting, differently storing, and/or throwing any data away that it collects from its sensors for analysis” and a “POSITA would have understood that throwing any data away might have caused Rabu to miss a small but important change in motion status.” *Id.* at 35. Patent Owner adds that Petitioner’s reasoning does not consider why any data would need to be partitioned in Curry (or Rabu) or what

partitioning would be done. *Id.* at 45–46 (citing Ex. 1003 ¶ 114). Patent Owner further contends that Katayama is “directed to the learned classification of data for separation of the data into different partitions of memory by importance, and erasing data based on importance, not based on where it is stored.” *Id.* at 53 (citing Ex. 1024, Abstract, ¶¶ 45–55).

According to Patent Owner, a “POSITA would have understood that Katayama teaches that even some data in long-term storage may be erased regardless of its importance.” *Id.* at 53. Patent Owner contends that

the ’369 patent would not erase any of the data, even if that data would seem on its face less important, if the data was collected slightly before, during, and after the driving incident, because all such data could be used to study and/or reenact various aspects of the driving incident for various uses such as benchmarking, insurance assessment, accident response, and user alerting and intervention. . . . In contrast, Katayama might have erased some of that data that it previously learned to be less important when perhaps it would have been useful.

Id. at 54–55 (citing Ex. 1001, 6:11–7:49; Ex. 1024 ¶ 55) (emphasis added).

In addition, Patent Owner contends Katayama teaches away from the asserted combination and from the ’369 patent. Patent Owner argues that “incorporating Katayama’s data classification system would likely result in erasing data,” which Patent Owner asserts the ’369 patent discloses as being useful for aspects of the invention. Prelim. Resp. at 58–59 (citing Ex. 1024 ¶ 55; Ex. 1001, 6:11–7:49, 17:53–18:30).

iii. Discussion

At this stage of the proceeding, the preliminary record better supports Petitioner’s position.

We observe first that Katayama describes a driving monitor that records driver behavior and “a surrounding situation” during a period before

and after an accident. Ex. 1024 ¶ 1. In Katayama's system, there are two types of data storage — temporary data storage section 802 and situation data recording section 803. *Id.* at Fig. 5. Katayama teaches that “data administration section 804 determines whether or not the content of the situation data stored in the temporary data storage section 802 meets the predetermined condition,” and if so, the situation data is “transferred from the temporary data storage section 802 to the situation data recording section 803.” *Id.* ¶ 46. Katayama further teaches that

[t]he difference between the temporary data storage section 802 and the situation data storage section 803 is[] *the temporary data storage section 802 temporarily stores the situation data irrespective of the contents of the situation data while the situation data storage section 803 stores the situation data for the record basically without updating the situation data and the situation data is updated after being transferred to other record device* (for example, the detachable record device 7).

Id. ¶ 51 (emphases added). As an example of “other record device,” Katayama teaches that removable recording device 7 is a memory card detachably mounted that “records the situation data stored in the situation data storage section 803 if required.” *Id.* ¶ 43. In this way, we understand Katayama to teach the storage of data in *short term* memory at temporary storage section 802 and *long term* memory at situation data storage section 803. This is because, generally, Katayama teaches that data stored at situation data storage section 803 is designed to be kept as “important” data for transfer to a center computer or other record device, whereas temporary storage section 802 constantly, sequentially erases old data. *Id.* ¶¶ 45, 51, 60.

Patent Owner argues that Katayama does not teach long term memory for persistently storing data because situation data storage section 803 may

overwrite stored information based on level of importance. Prelim. Resp. 54–55 (citing Ex. 1024 ¶ 55). As such, we understand Patent Owner’s position to be that “long term memory for persistently storing driving information,” must not overwrite any stored data.

Yet, the claim language itself does not mention overwriting long term memory or proscription of the same. Though, comparatively, claim 1 expressly does so for short term memory in limitation [1.13]. At minimum, this indicates that claim 1 requires short term memory to be overwritten, but does not expressly preclude overwriting of long term memory.

Our understanding of claim 1 is consistent with the disclosure of the ’369 patent. The ’369 patent describes permanent, protected, or long term storage that may be persistent and, additionally, unable to be overwritten. For example, the ’369 patent discloses that sampled sensor data is stored in storage 34 that has a FIFO (First In First Out) storage buffer 34a and a *permanent* storage component 34b. Ex. 1001, 17:1–3 (emphasis added), Fig. 3. The ’369 patent explains that “[d]ata files are stored in the buffer 34a, unless they are associated with a driving incident, in which case they are then stored in *protected storage 34b*, which cannot be overwritten.” *Id.* at 18:5–8 (emphasis added). Here, storage 34b is described as *protected* or *permanent* storage, in which case, the data cannot be overwritten. As such, we understand this disclosure to describe a specific type of “protected” storage that also cannot be overwritten. Elsewhere the ’369 patent enumerates the features of other types of memory, including long term memory. For example, the ’369 patent indicates that long term memory may include persistent storage, a larger capacity than short term memory, or storing data that “is not overwritten.” *Id.* at 7:53–61, 8:12–17. However,

the '369 patent does not, in our view at this juncture, treat all long term memory as memory that cannot be overwritten. Rather, the '369 patent acknowledges that memory comes in various forms and with variable features.

Our understanding of the '369 patent's disclosure is consistent with and supported by Dr. Michalson's testimony and supporting evidence cited in his declaration. Dr. Michalson testifies that it was common knowledge to a POSITA that a computer system could employ hierarchical memory that was "a combination of memory types to provide the best performance at the best cost." Ex. 1003 ¶ 174 (citing Ex. 1027, 64; Ex. 1037 ¶¶ 42–43; Ex. 1038 ¶¶ 43, 46). Dr. Michalson testifies that "[i]n some instances, the main memory can be implemented by volatile memory, while the secondary memory can be implemented by non-volatile memory such as ROM (read only memory) (e.g., hard disk) that persistently stores data [that] 'does not need to change' and 'data recorded on them lasts longer than it would in volatile main memory.'" *Id.* Dr. Michalson further cites to US Patent Publication No. 2012/0014659 A1 (Exhibit 1037), which we observe also describes long term storage (e.g., non-volatile memory) as either rewriteable or non-rewriteable memory. *Id.* (citing Ex. 1037 ¶ 43). As such, Dr. Michalson's testimony supports the notion that a POSITA would understand that long term memory such as non-volatile memory may persistently store data longer than volatile memory, but does not necessarily store that data indefinitely or without overwriting.

Even so, we observe that Katayama teaches that the long term memory, e.g., situation data storage section 803, may store data without overwriting until the data is transferred to another recording device (e.g.,

other record device 7). Ex. 1024 ¶ 51. Specifically, Katayama teaches that “the situation data storage section 803 stores the situation data for the record basically without updating the situation data and the situation data is updated after being transferred to other record device (for example, the detachable record device 7.” *Id.* Here, Katayama expressly teaches that the temporary data storage section 802 stores data temporarily and the situation data storage section 803 stores data without updates until the data is transferred to another device. Thus, at this stage, Petitioner’s position on this point is better supported by the express claim language, the disclosure of the ’369 patent, the testimony of Dr. Michalson, and the cited references. However, the parties are invited to further develop the record on this issue during the trial .

Patent Owner further contends that Petitioner has not provided adequate reasoning for the combination of Curry, Rabu, and Katayama. Prelim. Resp. 55.

To the contrary, Petitioner explains that

a POSITA would have recognized that important information stored in Curry’s local memory is subject to the risk of being inadvertently erased and overwritten with new data, and would have recognized in Katayama’s teachings a solution that could be readily applied in the context of the Curry-Rabu phone: partition of the local memory into temporary and long term sections, with storage of information identified as important in the long term section. . . .

Further, *a POSITA would have recognized that configuring the Curry-Rabu phone’s memory in this manner while applying Katayama’s related data storage techniques would “enable[] effective use of the memory without erasing important situation data” and “eliminat[e] accumulation of useless data,” while at the same time furthering Curry’s goals of “detect[ing] and prevent[ing] unsafe driving behavior[s]” by*

enabling the Curry-Rabu phone to detect both accidents and “risk incidents.”

Pet. 23–24 (citing Ex. 1003 ¶¶ 113–114; Ex. 1024 ¶¶ 1–2, 16, 44–51, 53, 57; Ex. 1005, Abstract, 2:1–27, 3:24–4:11, 7:5–22, 9:31–33, Fig. 1) (alterations in original) (emphases added). Dr. Michalson further opines that a “POSITA would have understood and found obvious that, like Katayama’s local memory 82, the local memory featured in Curry’s ‘mobile phone 106’ (and in the Curry-Rabu phone) has limited capacity, and must accommodate within that limited capacity continuously and sequentially received information including sensor data.” Ex. 1003 ¶ 110 (citing Ex. 1005, 1:22–27, 2:24–26, 7:20–27, 5:3–10, Fig. 1). To address this limited memory capacity, Dr. Michalson explains that

the combination would have provided more effective use of the Curry-Rabu-Katayama phone’s local memory given storage constraints of mobile device memory. This would have improved retention of important information for analysis while also allowing continually updates to the memory with new sensor data and related information.

Id. ¶ 105 (citing Ex. 1005, 2:2–15, 2:24–3:6; Ex. 1024 ¶¶ 14–16, 45, 53).

Patent Owner further contends that “Petitioner fails to consider Rabu in the combination for claim element [1.10] and never once cites to it.”

Prelim. Resp. 24. Patent Owner posits this is because Rabu does not “mention discounting, differently storing, and/or throwing any data away that it collects from its sensors for analysis” and a “POSITA would have understood that throwing any data away might have caused Rabu to miss a small but important change in motion status.” *Id.* at 35.

As discussed with regard to limitations [1.6]–[1.7], Petitioner asserts that Rabu teaches the limitation “the mobile device is removably attached to

the vehicle and the vehicle is in use” because (1) Rabu’s PMD can be docked and undocked to a holder on a vehicle; (2) holder status can be calculated based on orientation angle; (3) the PMD can determine if the PMD is in a moving vehicle; and (4) the PMD selects a mode of operation based on the holder motion status. *See supra* Section II.E.1.b.iii. In other words, Petitioner does not seek to incorporate Katayama’s memory architecture into Rabu’s multi-mode system, but proposes a modification of Curry’s system to more efficiently utilize memory with Katayama’s teachings. That being so, we are not persuaded that the Petition’s “failure” to cite or discuss Rabu’s teaching in regards to limitation [1.10] is deficient.

In addition, Patent Owner contends Katayama teaches away from the asserted combination and from the ’369 patent because “incorporating Katayama’s data classification system would likely result in erasing data.” Prelim. Resp. at 58–59 (citing Ex. 1024 ¶ 55; Ex. 1001, 6:11–7:49, 17:53–18:30).

As discussed above, we do not agree with Patent Owner that limitation [1.10] or the disclosure of the ’369 patent requires persistent long term memory to never overwrite data. While the ’369 patent does describe embodiments where data cannot be overwritten, we understand the scope of the ’369 patent’s disclosure to be broader and inclusive of alternative types of long term memory. *See* Ex. 1001, 7:53–61, 8:12–17. Moreover, as discussed, Katayama teaches that the long term memory, e.g., situation data storage section 803 may store data without updates until the data is transferred to another recording device (e.g., other record device 7). Ex. 1024 ¶ 51 (“[T]he situation data storage section 803 stores the situation data for the record basically without updating the situation data and the

situation data is updated after being transferred to other record device (for example, the detachable record device 7).”). While paragraph 55 of Katayama also teaches that situation data storage section 803 may overwrite situation data if storage capacity “runs out,” this does not discount or otherwise negate Katayama’s teaching in paragraph 51. “A prior art reference does not teach away if it merely expresses a general preference for an alternative invention but does not criticize, discredit or otherwise discourage investigation into the invention claimed.” *Incept LLC v. Palette Life Scis., Inc.*, 77 F.4th 1366, 1375 (Fed. Cir. 2023) (quoting *UCB, Inc. v. Actavis Laby’s UT, Inc.*, 65 F.4th 679, 692 (Fed. Cir. 2023) (internal quotation marks omitted)).

Thus, for the purposes of institution, Petitioner’s position is better supported by the preliminary record. The parties are, however, encouraged to develop the record on these issues during trial.

e. wherein the short term memory receives driving information at a higher update rate than the long term memory [1.11]

Claim 1 further requires that the short term memory receives driving information at a higher update rate than the long term memory. Ex. 1001, 31:67–32:2.

For this limitation, Petitioner asserts that Katayama’s temporary data storage section obtains data more frequently than the long term storage section. Pet. 47 (citing Ex. 1024 ¶¶ 44–46, Fig 5). Petitioner contends the temporary section temporarily stores the situation data irrespective of the contents of the situation data but the situation data is transferred to the storage section “[o]nly in a case that the content meets the predetermined condition[.]” Pet. 47 (citing Ex. 1024 ¶¶ 46, 51; Ex. 1003 ¶ 180).

Patent Owner does not provide any arguments specific to this limitation beyond those discussed above.

Based on our review of the preliminary record, we agree with Petitioner's position. *See* Pet. 47.

f. write driving information to the short term memory at a predetermined update rate during the driving period in a predetermined sequence [1.12]

Claim 1 also requires that the mobile telecommunications device is configured to “write driving information to the short term memory at a predetermined update rate during the driving period in a predetermined sequence.” Ex. 1001, 32:5–7.

For this limitation, Petitioner asserts that Katayama's data receiving section 801 receives “situation data” including sensor data at a constant sampling time one after another (e.g., predetermined update rate) in a chronological order (e.g., predetermined sequence) and writes the received situation data in memory 82's temporary data storage section 802. Pet. 20–21 (citing Ex. 1024 ¶ 16, 45; Ex. 1003 ¶ 75); *id.* at 49 (citing Ex. 1024 ¶¶ 44–46, Fig. 5; Ex. 1003 ¶ 185).

Patent Owner does not provide any arguments specific to this limitation beyond those discussed above.

Based on our review of the preliminary record, we agree with Petitioner's position. *See* Pet. 49.

g. overwrite the driving information previously written to the short term memory in accordance with the predetermined sequence [1.13]

Claim 1 also requires that the mobile telecommunications device is configured to “overwrite the driving information previously written to the short term memory in accordance with the predetermined sequence.”

Ex. 1001, 32:8–10.

For this limitation, Petitioner relies on the testimony of Dr. Michalson, who testifies that Katayama teaches that

“[i]f a capacity of the [short term memory section] . . . runs out, old data is sequentially erased and new situation data is written in” to the short term memory section. USAA-1024, [0045]. A POSITA would have understood that, being “*sequentially* erased,” the old data is erased according to the chronological order in which it was written into the short term memory section, which is First in, First Out (“FIFO”), a typical replacement policy commonly used to overwrite old data in a memory when the memory is full.

Ex. 1003 ¶ 188 (citing Ex. 1027, 70–71; Ex. 1039 ¶¶ 3–4); Pet. 50.

Patent Owner does not provide any arguments specific to this limitation beyond those discussed above.

Based on our review of the preliminary record, we agree with Petitioner’s position. *See* Pet. 50.

h. Conclusion

We have reviewed Petitioner’s contentions and evidence, along with Patent Owner’s arguments against institution, and conclude that Petitioner has shown a reasonable likelihood of prevailing with respect to unpatentability of independent claim 1 over the asserted combination of Curry, Rabu, and Katayama.

2. *Claims 2–4, 6, 9–12, 16–24, and 26*

For independent claim 26, Petitioner relies on the same or similar arguments and evidence discussed above for the combination of Curry, Rabu, and Katayama. *See* Pet. 51 (“The combination renders this claim obvious in the same manner as explained above for the corresponding claim 1 limitations listed in the table below.”) (citing Ex. 1003 ¶ 215).

Claims 2–4, 6, 9–12, and 16–24 depend from independent claim 1. We have also reviewed Petitioner’s contentions for the challenges to these claims. *See* Pet. 52–67.

Patent Owner has not yet substantively addressed these claims beyond the arguments discussed with respect to claim 1. *See* Prelim. Resp. 59–60. Because we find Petitioner meets its burden for institution as to independent claim 1, we do not address independent claim 26 or the dependent claims at this time.

F. Obviousness Based on Curry, Rabu, Katayama, and Tamir

Petitioner asserts that dependent claim 5 of the ’369 patent would have been obvious over Curry, Rabu, Katayama, and Tamir. Pet. 67–68.

Patent Owner has not yet substantively addressed claim 5 beyond the arguments discussed with respect to claim 1. Prelim. Resp. 59–60. We have reviewed Petitioner’s contentions. Because we find Petitioner meets its burden for institution as to independent claim 1, we do not address dependent claim 5 at this time.

*G. Obviousness Based on
Curry, Rabu, Katayama, and Balachandran*

Petitioner asserts that each of dependent claims 7, 8, and 15 of the '369 patent would have been obvious over Curry, Rabu, Katayama, and Balachandran. Pet. 69–73.

Patent Owner has not yet substantively addressed these claims beyond the arguments discussed with respect to claim 1. Prelim. Resp. 59–60. We have reviewed Petitioner's contentions. Because we find Petitioner meets its burden for institution as to independent claim 1, we do not address these dependent claims at this time.

*H. Obviousness Based on
Curry, Rabu, Katayama, and Thompson*

Petitioner asserts that each of claim 13 and 14 of the '369 patent would have been obvious over Curry, Rabu, Katayama, and Thompson. Pet. 73–78.

Patent Owner has not yet substantively addressed these claims beyond the arguments discussed with respect to claim 1. Prelim. Resp. 59–60. We have reviewed Petitioner's contentions. Because we find Petitioner meets its burden for institution as to independent claim 1, we do not address these dependent claims at this time.

*I. Obviousness Based on
Curry, Rabu, Katayama, and Willis*

Petitioner asserts that dependent claim 25 of the '369 patent would have been obvious over Curry, Rabu, Katayama, and Willis. Pet. 78–80.

Patent Owner has not yet substantively addressed this claim beyond the arguments discussed with respect to claim 1. Prelim. Resp. 59–60. We

have reviewed Petitioner's contentions. Because we find Petitioner meets its burden for institution as to independent claim 1, we do not address dependent claim 25 at this time.

*J. Obviousness Based on
Curry, Rabu, Katayama, and Berkobin*

Petitioner asserts that independent claim 27 of the '369 patent would have been obvious over Curry, Rabu, Katayama, and Berkobin. Pet. 80–82. Petitioner relies on the same or similar arguments and evidence discussed above for the combination of Curry, Rabu, and Katayama. *See* Pet. 80–82. Petitioner further relies on Berkobin's disclosure of artificial intelligence, neural networks, and iterative learning in combination with Curry, Rabu, and Katayama. *Id.* at 80.

Patent Owner has not yet substantively addressed this claim beyond the arguments discussed with respect to claim 1. Prelim. Resp. 59–60. We have reviewed Petitioner's contentions. Because we find Petitioner meets its burden for institution as to independent claim 1, we do not address independent claim 27 at this time.

III. DISCRETIONARY DENIAL UNDER 35 U.S.C. § 314

In the Petition, Petitioner contends that we should not exercise our discretion under 35 U.S.C. § 314 to deny institution. Pet. 83–86. Patent Owner did not address discretionary denial in its Preliminary Response. After the Petition was filed, Petitioner submitted a *Sotera* stipulation, which states that

USAA and Noblr hereby stipulate that if the PTAB institutes IPR2023-00768 based on the grounds in attached Appendix A, USAA and Noblr will not pursue for the instituted claims, in the District Court proceedings, the same grounds or any grounds that

could have reasonably been raised before the PTAB in the IPR2023-00768 petition.

Ex. 1082, 1 (citing *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 13–20 (PTAB Dec. 1, 2020) (precedential)). Exhibit 1082 shows that, consistent with the *Sotera* stipulation, Petitioner is not relying on Curry, Rabu, Katayama, Tamir, Balachandran, Thompson, Willis, and Berkobin to argue for the invalidity of the '369 patent in the related district court litigation. We do note that the proffered stipulation applies to the “instituted claims,” which in this case are all the claims, claims 1–27, in the '369 patent. As such, we understand the stipulation applies to all claims that could have been challenged in the '369 patent, because all of claims 1–27 have in fact been challenged in the Petition. Pet. 1–2. In this way, Petitioner’s stipulation is consistent with and commensurate in scope with a *Sotera* stipulation. The Director’s *Interim Procedure For Discretionary Denials In AIA Post-Grant Proceedings With Parallel District Court Litigation*, issued June 21, 2022 (“Guidance Memo”), states that

[c]onsistent with *Sotera Wireless, Inc.*, the PTAB will not discretionarily deny institution in view of parallel district court litigation where a petitioner presents a stipulation not to pursue in a parallel proceeding the same grounds or any grounds that could have reasonably been raised before the PTAB.

Guidance Memo, 7–8. For this reason, we will not deny institution in view of the parallel district court litigation.

IV. CONCLUSION

For the foregoing reasons, we determine that Petitioner demonstrates a reasonable likelihood of prevailing with respect to at least one of the claims challenged in the Petition. Accordingly, *inter partes* review of the '369 patent shall proceed in this case on all of the grounds raised in the

Petition. *See SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018) (holding that a decision to institute under 35 U.S.C. § 314 may not institute on fewer than all claims challenged in the petition); *PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (stating that the decision whether to institute *inter partes* review requires “a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”).

Our determination in this Decision is not a final determination on either the patentability of any challenged claims or the construction of any claim term. The factual findings set forth in this Decision are preliminary and provided for the sole purpose of deciding whether to institute a review. Any final findings will be based on the full trial record, including any information presented by Patent Owner in a timely filed response to the Petition. *See TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1068 (Fed. Cir. 2016) (noting that “there is a significant difference between a petitioner’s burden to establish a ‘reasonable likelihood of success’ at institution, and actually proving invalidity by a preponderance of the evidence at trial”) (quoting 35 U.S.C. § 314(a) and comparing with *id.* § 316(e)).

V. ORDER

Upon consideration of the record before us, it is:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–27 of the '369 patent is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the '369 patent shall commence on the entry date of this Order, and notice is hereby given of the institution of a trial.

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