

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNITED SERVICES AUTOMOBILE ASSOCIATION,
Petitioner,

v.

AUTO TELEMATICS LTD.,
Patent Owner

Case IPR2023-00911
U.S. Patent No. 9,311,271

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

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LIST OF EXHIBITS

USAA-1001	U.S. Patent No. 9,311,271 to Wright (“the ’271 Patent”)
USAA-1002	Excerpts from the Prosecution History of the ’271 Patent (“the Prosecution History”)
USAA-1003	Declaration and Curriculum Vitae of Dr. William Michalson
USAA-1004	Original Complaint for Patent Infringement in <i>Auto Telematics Ltd. v. United Services Automobile Association</i> , 6:22-cv-00474 (W.D. Tex. May 11, 2022)
USAA-1005	International Publication No. WO 2010/042545 to Curry et al. (“Curry”)
USAA-1006	U.S. Patent No. 7,821,421 to Tamir et al. (“Tamir”)
USAA-1007	U.S. Patent No. 6,073,004 to Balachandran (“Balachandran”)
USAA-1008	Thompson et al., “Using Smartphones to Detect Car Accidents and Provide Situational Awareness to Emergency Responders,” <i>Mobilware 2010, LNICST 48</i> , pp. 29–42, 2010 (“Thompson2010”)
USAA-1009	International Publication No. WO 2007/114716 (“Willis”)
USAA-1010	U.S. Patent Application Publication No. 2008/0255888 (“Berkobin”)
USAA-1011	Cheng et al., “An Android System Design and Implementation for Telematics Services,” 2010 IEEE International Conference on Intelligent Computing and Intelligent Systems. Vol. 2. IEEE, 2010 (“Cheng2010”)
USAA-1012	U.S. Pat. No. 8,290,480 to Abramson (“Abramson”)
USAA-1013	U.S. Pat. No. 8,682,399 to Rabu (“Rabu”)

USAA-1014	U.S. Pat. App. Pub. No. 2010/0208070 to Haynes (“Haynes”)
USAA-1015	U.S. Pat. App. Pub. No. 2002/0105423 to Rast (“Rast”)
USAA-1016	U.S. Pat. App. Pub. No. 2009/0192705 to Golding (“Golding”)
USAA-1017	U.S. Pat. No. 7,765,058 to Doering (“Doering”)
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USAA-1020	Richard C. Hunt, “Emerging Communication Technologies in Emergency Medical Services,” Prehospital Emergency Care, 2002; 6:1, 131-136 (“Hunt2002”)
USAA-1021	Kanianthra, Joseph, “Arthur Carter, and Gerard Preziotti. Enhancing post-crash vehicle safety through an automatic collision notification system,” No. 2001-06-0085. SAE Technical Paper, 2001 (“Kanianthra2001”)
USAA-1022	Megalingam R.K. et al., “Wireless vehicular accident detection and reporting system.” 2010 International Conference on Mechanical and Electrical Technology. IEEE, 2010 (“Megalingam2010”)
USAA-1023	Farris, P. et al., “General Motors OnStar.” Darden Case No. UVA-M-0659 (2003) (“Farris2003”)
USAA-1024	European Pat. App. Pub. No. EP 1,914,691 to Katayama et al. (“Katayama”)
USAA-1025	U.S. Pat. App. Pub. No. 2012/0074770 to Lee (“Lee”)
USAA-1026	RESERVED

USAA-1027	Linda Null & Julia Lobur, “The Essentials of Computer Organization and Architecture” (2d ed. 2003) (“Null2003”)
USAA-1028	U.S. Pat. Publication No. 2009/0005975 to Forstall et al. (“Forstall”)
USAA-1029	Langle, Lonnie, and Ram Dantu, “Are you a safe driver?” 2009 International Conference on Computational Science and Engineering. Vol. 2. IEEE, 2009 (“Langle2009”)
USAA-1030	U.S. Pat. Publication No. 2006/0053038 to Warren et al. (“Warren”)
USAA-1031	U.S. Pat. Publication No. 2007/0027585 to Wulff (“Wulff”)
USAA-1032	Mohan, Prashanth et al., “Nericell: rich monitoring of road and traffic conditions using mobile smartphones,” Proceedings of the 6th ACM conference on Embedded network sensor systems, 2008 (“Mohan2008”)
USAA-1033	U.S. Pat. No. 5,274,560 to LaRue (“LaRue”)
USAA-1034	Declaration of Nataniel E. Frank-White re Exhibits USAA-1077 (Ex. A) and USAA-1078 (Ex. B)
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USAA-1037-1040	RESERVED
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USAA-1042	Del Rosso, Christian, “The method, the tools and rationales for assessing dynamic memory efficiency in embedded real-time systems in practice,” 2006 International Conference on

Software Engineering Advances (ICSEA'06), IEEE, 2006
("Christian2006")

- USAA-1043 Wakihara, Masataka, "Recent developments in lithium ion batteries," Materials Science and Engineering: R: Reports 33.4 (2001): 109-134 ("Wakihara2001")
- USAA-1044 Toledo, Tomer, et al., "In-vehicle data recorders for monitoring and feedback on drivers' behavior," Transportation Research Part C: Emerging Technologies 16.3 (2008): 320-331 ("Toledo2008")
- USAA-1045 International Publication No. WO 2010/06899 ("Callopy")
- USAA-1046 Zhao, Yilin, "Vehicle Location and Navigation Systems," Artech House, Boston (1997) ("Zhao1997")
- USAA-1047 Conover, Gerald D. "ITS Technology in Automotive—Who's on First?" SAE Transactions (2006): 1-11 ("Conover2006")
- USAA-1048 Skog, Isaac, et al., "A versatile PC-based platform for inertial navigation," Proceedings of the 7th Nordic Signal Processing Symposium-NORSIG 2006. IEEE, 2006 ("Skog2006")
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- USAA-1050 Flinchbaugh, B., "Smart Camera Systems Technology Roadmap," Real-Time Vision for Human-Computer Interaction (2005), 285-297 ("Flinchbaugh2005")
- USAA-1051 LeBlanc, David J., "Road departure crash warning system field operational test: methodology and results," Vol. 1: Technical Report, University of Michigan, Ann Arbor, Transportation Research Institute, 2006 ("LeBlanc2006").

- USAA-1052 Reddy, Sasank et al., “Determining transportation mode on mobile phones,” 2008 12th IEEE international symposium on wearable computers. IEEE, 2008 (“Reddy2008”).
- USAA-1053 Zhao, Yilin, “Standardization of mobile phone positioning for 3G systems,” IEEE Communications magazine 40.7 (2002): 108-116 (“Zhao2002B”)
- USAA-1054 Strömmer, Esko et al., “Ultra-low power sensors with near field communication for mobile applications,” Wireless Sensor and Actor Networks: IFIP WG 6.8 First International Conference on Wireless Sensor and Actor Networks, WSAAN’07, Albacete, Spain, September 24–26, 2007. Springer US, 2007 (“Strömmer2007”)
- USAA-1055 Schott, Christian, et al., “CMOS single-chip electronic compass with microcontroller,” IEEE Journal of Solid-State Circuits 42.12 (2007): 2923-2933 (“Schott2007”)
- USAA-1056 Liutkauskas, V. et al., “Location based services,” Elektronika ir elektrotechnika 52.3 (2004) (“Liutkauskas2004”)
- USAA-1057 Ealey, Lance & Luis Troyano-Bermúdez, “Are automobiles the next commodity?” The McKinsey Quarterly 4 (1996): 62 (“Ealey1996”)
- USAA-1058 Zhao, Yilin, “Efficient and reliable data transmission for cellular-and-GPS-based mayday systems,” Proceedings of Conference on Intelligent Transportation Systems, IEEE, 1997 (“Zhao1997B”)
- USAA-1059 Young, Richard A., “Association between embedded cellular phone calls and vehicle crashes involving airbag deployment,” Driving Assessment Conference, Vol. 1. No. 2001, University of Iowa, 2001 (“Young2001”)

- USAA-1060 De Fabritiis, Corrado et al., “Traffic estimation and prediction based on real time floating car data,” 2008 11th international IEEE conference on intelligent transportation systems, IEEE, 2008 (“DeFabritiis2008”)
- USAA-1061 Schäfer, Ralf-Peter, et al., “A traffic information system by means of real-time floating-car data” (2002) (“Schäfer2002”)
- USAA-1062 Kerner, B. S., et al., “Traffic state detection with floating car data in road networks,” Proceedings. 2005 IEEE Intelligent Transportation Systems, 2005, IEEE, 2005 (“Kerner2005”)
- USAA-1063 Leduc, Guillaume, “Road traffic data: Collection methods and applications,” Working Papers on Energy, Transport and Climate Change 1.55 (2008): 1-55 (“Leduc2008”)
- USAA-1064 Troncoso, Carmela, et al, “Pripayd: privacy friendly pay-as-you-drive insurance,” IEEE Transactions on Dependable and Secure Computing, Vol. 8, No. 5, October 2011 (“Troncoso2011”)
- USAA-1065 Memorandum, Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (USPTO June 21, 2022) (“Director’s Guidance”)
- USAA-1066 Order Granting Motion for Entry of Scheduling Order in *Auto Telematics Ltd. v. United Services Automobile Association*, 6:22-cv-00474 (W.D. Tex. September 16, 2022)
- USAA-1067 U.S. District Court Statistics (June 30, 2022), *available at* https://www.uscourts.gov/sites/default/files/fcms_na_distprofile_0630.2022_0.pdf
- USAA-1068 USAA’s Opening Claim Construction Brief in *Auto Telematics Ltd. v. United Services Automobile Association*, 6:22-cv-00474 (W.D. Tex. December 19, 2022)

USAA-1069	Plaintiff's Claim Construction Response Brief in <i>Auto Telematics Ltd. v. United Services Automobile Association</i> , 6:22-cv-00474 (W.D. Tex. January 12, 2023)
USAA-1070	USAA's Reply Claim Construction Brief in <i>Auto Telematics Ltd. v. United Services Automobile Association</i> , 6:22-cv-00474 (W.D. Tex. January 25, 2023)
USAA-1071	Plaintiff's Claim Construction Sur-Reply Brief in <i>Auto Telematics Ltd. v. United Services Automobile Association</i> , 6:22-cv-00474 (W.D. Tex. February 6, 2023)
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USAA-1077	Internet Archive of Waze User Manual
USAA-1078	Internet Archive of iPhone User Guide
USAA-1079	Internet Archive of iPhone 3G Technical Specification

USAA-1080	Internet Archive of iPhone User Guide for iPhone and iPhone 3G
USAA-1081	Internet Archive of Instruction Sheet for iPhone 3G
USAA-1082	U.S. Patent Application Publication No. 2010/0131307 (“Collopy”)
USAA-1083	U.S. Patent Application Publication No. 2009/0024419 (“McClellan”)
USAA-1084	U.S. Patent Application Publication No. 2011/0077028 (“Wilkes”)
USAA-1085	U.S Patent Application Publication No. 2008/0042489 (“Lewis”)
USAA-1086	Stipulation by USAA and Noblr Reciprocal Exchange
USAA-1087	Stipulation by Auto Telematics Ltd. v. United Services Automobile Association and Noblr Reciprocal Exchange
USAA-1088	Transcript of March 26, 2024 Deposition (Day 1) of Mr. Christopher K. Wilson
USAA-1089	Transcript of March 27, 2024 Deposition (Day 2) of Mr. Christopher K. Wilson

I. INTRODUCTION

In its Patent Owner Response (“POR”), Auto Telematics (“AT”) argues against the Petition grounds by improperly narrowing key prior art disclosures. These arguments are not new—AT pursued them in its Patent Owner Preliminary Response (“POPR”). And, while the POR is accompanied by testimony from Christopher Wilson, there is nearly no corroboration for these repackaged POPR arguments. More importantly, PO fails to address aspects of the underlying record highlighted by USAA in the Petition.

The POR’s primary focus is Curry, which AT mischaracterizes and misinterprets in several ways. AT first superficially minimizes Curry’s use of sensor data to phone calls, and in doing so, overlooks Curry’s disclosure of an “integrated and economical solution” to “detect and prevent unsafe driving behavior, such as talking on or texting with mobile phones while driving” by “utilizing GPS and accelerometer sensors embedded in mobile phones.” USAA-1005, 7:5-22; USAA-1003, ¶¶72-74. AT then attempts to limit use of this sensor data to server-side analytics. Finally, AT argues that information determined from the recording and processing of data is not even related to driving. Not only do these characterizations contradict express teachings within Curry, they bely its express objective—to improve driver safety. This is consistent with the approach

earlier taken in the POPR, yielding similar characterizations of Curry that were rightly dismissed by the Panel as “too narrow.” Inst. Dec., 32.

AT has also failed to meaningfully develop the evidentiary record post-institution. It failed to avail itself of the opportunity to cross-examine USAA’s expert, Dr. William Michalson. And, deposition of AT’s witness, Mr. Wilson, yielded testimony that reinforced the Panel’s preliminary assessment—the Petition sufficiently identified a prior art basis for obviousness. The post-institution record, therefore, reinforces USAA’s positions and further demonstrates obviousness of the Challenged Claims.

In related earlier proceedings for US 9,633,487 and US 10,192,369, similar arguments have been advanced by AT and addressed by USAA for overlapping elements [1.6], [1.7] and [1.8] of Claim 1, each reciting substantially similar language with the corresponding elements of the ’271 Patent. In the interest of brevity and to focus this Reply on the distinct issues raised in the present proceeding, USAA in this Reply abbreviates arguments already presented, and additionally addresses AT’s arguments unique to the ’271 Patent and grounds.

II. CLAIM INTERPRETATION

No express constructions are required in this proceeding. Pet., 3.
Nonetheless, USAA addresses the POR’s characterizations of claim terms below.

A. Determine...A Start Of A Driving Period¹

AT characterizes this phrase to impose two time-durational requirements on an associated time period of the ***driving period***, that: (1) the time period is “the entirety of a driving period” and (2) the time period includes “the start of the period in which the vehicle is being driven” and “an end.” POR, 34-35. Neither the claim language nor the record evidence supports this position.

When addressing [1.6], the Petition observed that “because the two claim parameters defining the ‘driving period’ are ‘removably attached...***and*** the vehicle is in use,’ the claim leaves open the possibility of the driving period corresponding to the beginning, middle, or end of, a vehicle’s operation.” Pet., 3-4; USAA-1003, ¶¶70, 133-34. The Panel addressed this observation and found that specification disclosure “supports” it because “the start of the driving period may correspond to the beginning or the middle of a vehicle’s operation.” Inst. Dec., 24 (also identifying disclosure of “trigger[ing] the start of the driving period” based on “sensor data reflect[ing] a detected speed above a predetermined threshold” (citing USAA-1001, 3:34-38)).

At least because the ’271 Patent contemplates embodiments in which a ***start***

¹ Reference to claim language in this Reply is bolded and italicized throughout.

of a *driving period* occurs at time points *after* a user has already started to drive, the *driving period* is not limited to the entire time period of a vehicle being driven. *Oatey Co. v. IPS Corp.*, 514 F.3d 1271, 1276 (Fed. Cir. 2008) (“We normally do not interpret claim terms in a way that excludes embodiments disclosed in the specification”). Even AT’s expert agrees. USAA-1088, 99:7-10 (“So the specifics of exactly when the driving period starts and exactly when it ends are not critical to the analysis o[f] the driving period...”); 91:7-16, 103:16-104:7, 104:12-106:16, 111:24-114:21.

B. Driving Information

According to AT, “[d]riving information” includes “location, speed, acceleration” of the vehicle “associated with how the vehicle is driven,” which may include “detected driving events and anomalies, ...” POR, 28-29. This is consistent with the Petition’s identification of “driving behavior” information in Curry, such as “talking...or texting...while driving” and “speeding.” Pet., 29 (citing USAA-1005, 7:13-29, 8:21-27, 8:30-9:33, 10:15-26, 11:3-17); USAA-1003, ¶¶143-145.

C. A Selection of the Driving Information

When addressing [1.8], the Petition observed that the plain meaning of a “selection of the driving information” “is broad enough to encompass selection of

... all of” that information. Pet., 32; USAA-1003, ¶149. Alternatively, from Curry, “a POSITA would have found obvious to store ... a subset” of the derived driving information, because Curry explains that specific aspects of recorded sensor data are more useful for storage and transmission to safety data server 104, such as motion data indicating possible use violations or unsafe driving behavior. Pet., 32 (citing USAA-1005, 3:24-4:6, 4:8-11, 7:5-22, 8:29-10:12, 13:20-16:6, Fig. 1); USAA-1003, ¶149. The Panel “agree[d]” that “Curry’s mobile phone 106 stores a selection of driving information to memory” including storing “less than all of the driving information ...” which is “supported by Curry’s discussion concerning the relative importance of some driving information over other driving information.” Inst. Dec., 46.

III. CURRY-RABU RENDERS CLAIMS 1 AND 4 OBVIOUS

The POR primarily addresses several limitations recited in claim 1. USAA-1001, 31:29-56; Pet., 18-41. Claim 4 is “substantially similar” except [4.10]. POR, 9, 57-59 (recycling essentially the same arguments relating to Claim 1, without addressing either [4.10] or providing any particular argument against prior art McClellan). USAA-1001, 32:1-29. For [1.6] and [1.10], AT attempts to distinguish the *start* of a *driving period* by narrowly characterizing a start of a recording on Curry’s phone as being limited to phone calls. In addressing

processing in [1.7], AT ignores Curry’s express disclosure of a motion data cache (on a mobile device) for locally storing processed data, and attempts instead to limit all processing to a data server. Finally, in addressing *driving information* for [1.1], [1.8] and [1.9], AT ignores Curry’s disclosure of transmitting driving safety performance data and reporting safety statistics, from a phone to a data server, while insisting that any information stored in the motion data cache cannot be *driving information*, and that the logging of driving information and processing the driving information to generate a driving score is only done on the remote server, not by Curry’s phone. Each of these arguments fail because they either mischaracterize Curry and/or the Petition, and/or overlook contrary positions in each.

A. Curry Teaches Sensor Data Recording Techniques That Determine...A Start Of A Driving Period

The Curry-Rabu phone satisfies [1.6] in “multiple ways” through “multiple embodiments” of recording where a phone “is located within a moving vehicle.” Pet., 24-25; USAA-1003, ¶¶136-37. Cited examples of these embodiments include Figure 3 (Pet., 26-27 (citing USAA-1005, 12:20-13:26); USAA-1003, ¶¶130, 139-40) and Figure 4 (Pet., 27-28 (citing USAA-1005, 15:7-22); USAA-1003, ¶140).

Yet AT focuses on only Figure 4, which it purports “does not disclose any data collection unrelated to the phone call.” POR, 21. This improperly narrows

both the scope of Curry's disclosure and the mappings to Curry expressly relied-upon in the Petition. For example, in Figure 3, Curry teaches that a "motion recording process can be activated 302 on the phone," where the activation is "accomplished by the user." Pet., 13 (citing USAA-1005, 12:20-26). The same paragraph also confirms activation "when an outgoing call 301 is made or an incoming call 303" is merely exemplary. *Id.*

AT's position is also largely the same as previously stated in the POPR—that starting the recording of sensor data upon receipt of a phone call in Curry is not "a start of a driving period." POPR, 35. In the Institution Decision, the Panel indicated that it was "not persuaded" and explained instead that "Curry specifically teaches that a phone call may be placed or received during the driving of a vehicle, which then activates the monitoring mode." Inst. Dec., 33 (citing to Ex. 1005, 7:5-8). *See also* Pet., 25-29. This conclusion was reinforced through Mr. Wilson's deposition testimony confirming that motion recording in relation to phone calls advances Curry's overall objective to improve driver safety, because it helps "eliminate or penalize people for the use of cell phone while driving." USAA-1088, 211:3-5.

AT also contends that Curry's "**triggering event (the phone call or text)**" does not occur at the start of the period in which the vehicle is being driven."

POR, 34. AT unjustifiably limits the *start* of [1.6] to the start of driving. As noted in § II.A. above, the intrinsic record provides an example that instead triggers a start of a driving period *after* the start of driving. USAA-1001, 3:34-54. Even AT's expert agrees that "when the driving period starts" is "not critical." USAA-1088, 99:7-10.

B. Processing Of Sensor Data By The Curry-Rabu Phone Satisfies Process[ing] The Sensor Data...To Derive Driving Information

The Curry-Rabu phone satisfies [1.7] by processing sensor data (e.g., motion and orientation data) to derive "driving behavior" information, e.g., "talking...or texting...while driving" and "speeding." Pet., 29 (citing USAA-1005, 7:13-29, 8:21-27, 8:30-9:33, 10:15-26, 11:3-17); USAA-1003, ¶¶143-145. This processing can occur in real-time using timestamp information. USAA-1005, 13:20-14:26. Other types of *driving information* described in Curry include a "driver safety statistic" and "driving safety performance data," which may be transmitted or "reported to" a data server. USAA-1005, 3:24-4:6, 11:15-18. For at least these reasons, the Curry-Rabu phone also satisfies [1.1] regarding locally logging driving information and [1.9] regarding the driving information being derived without data from vehicle sensors. USAA-1003, ¶¶118-121, 144-148, 152-156.

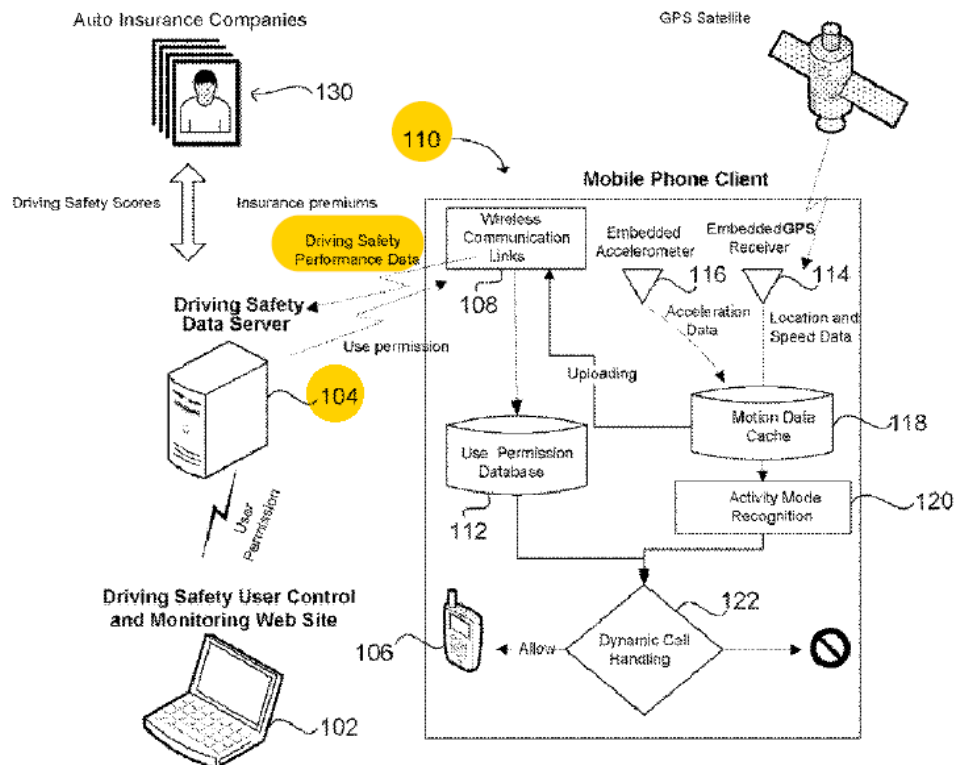
As an initial matter, AT mischaracterizes the Petition's mappings to *driving information* as "the mobile device's determination of 'whether' a vehicle is being

driven” and not “*how* the vehicle is being driven.” POR, 36 (emphasis added). Setting aside its inaccuracy, AT’s purported distinction between “whether” and “how” is inconsequential and does not inform the issue. The information collected by the Curry-Rabu phone, regardless of what is precisely measured, is collected while driving and used by the Curry system to improve driver safety, and is therefore associated with how the vehicle is driven. USAA-1005, 3:24-6. This purported distinction also contradicts AT’s own identification of information representing examples of *driving information*. Like AT’s identification of “location, speed, and acceleration of the vehicle...” (POR, 2), the Petition identified Curry’s “driving behavior” information, including “speed and acceleration” (Pet., 6, 13, 22; USAA-1005, 8:30-32).

AT then proceeds to mischaracterize Curry as disclosing performance by a server (and not a mobile device) of any and all processing of *driving information*. See, e.g., POR 17, 18, 34, 42.

But the plain text of Curry refutes each of these characterizations. For instance, Curry describes that “sensors embedded in mobile phones” are used to track “location, speed, and acceleration data of a driver[,]” and further, that “[t]he communication links in the mobile phone can be used to [transmit] driving safety performance data to a central data server.” USAA-1005, 11:15-25; USAA-

1003, ¶¶121-123, 144. Because these disclosures immediately follow one another within the same paragraph, Curry discloses, or at the least, suggests that “location, speed, and acceleration data” are examples of “driving safety performance data” (i.e., data indicating safety performance associated with driving). USAA-1003, ¶144. *See also* USAA-1005, 7:5-22 (disclosure of “driving safety data” being “recorded” (e.g., processed) on a mobile phone and “then transmitted” to a server); USAA-1003, ¶¶150-51. Specifically, as highlighted below, the “driving safety performance data” is recorded/processed by mobile phone client 110 (running on a mobile phone) and is transmitted to driving safety data server 104:



USAA-1005, FIG. 1 (annotated)

Curry also teaches that its mobile phone collects other types of *driving information*, such as “[a] safety statistic and other information.” USAA-1005, 4:7-11; USAA-1003, ¶¶124, 150. The safety statistic can be “reported to” a data server, confirming local processing of safety statistics. *Id.*, 3:24-4:6. For example, “the driver safety statistic value **is decreased** when the incoming phone call is answered **while** the mobile wireless computing device is **in the driving mode**.” *Id.*, 21:4-6. Relevantly, Mr. Wilson admitted in deposition that calculation and adjustment of this value is based on unsafe driving (i.e., associated with *how* a vehicle is driven), and thus, the value is an example of *driving information*. USAA-1088, 209:18-22.

AT also fails to identify any evidence suggesting that Curry’s phone would have been somehow unable to *process sensor data...to derive driving information*, as recited in [1.7]. This reticence is not surprising, as Mr. Wilson admitted that Curry’s phone “could perform the processing...” USAA-1088, 62:11-13; 64:8-9 (“It had the capability to do some processing...”); 65:21-66:4. Indeed, an iPhone 3G—an implementation expressly disclosed in Curry—would have been capable of processing sensor data in the same manner as recited in [1.7]. *Id.*, 48:3-15, 64:23-24. Curry supports this because it expressly teaches processed sensor data (e.g., “location, speed, and acceleration data from sensors embedded in

the wireless device”) being “recorded to a local motion cache 118 for further processing.” USAA-1005, 8:29-9:11; Pet., 22, 23-24, 35.

C. Recording of Safety Data In Curry’s Local Motion Data Cache Involves *Stor[ing] A Selection Of The Driving Information*

The Curry-Rabu phone satisfies [1.8] because information derived from processed sensor data is stored in memory (e.g., motion data cache 118) prior to transmission (e.g., to server 104). Pet., 31 (citing USAA-1005, 7:5-22, 8:29-10:12, 13:20-16:6, Figs. 1, 3); USAA-1003, ¶149. As to the *selection*, “a POSITA would have found obvious to store in the Curry-Rabu phone a subset of (i.e., selection of) the recorded sensor data” given Curry’s disclosure that “motion data cache can be compared with the user permission data to enable a driver safety statistic to be calculated,” indicating that specific aspects of recorded sensor data are more useful for storage and transmission to safety data server 104 (e.g., only the data indicating possible use violations or unsafe driving behaviors). Pet., 32 (citing USAA-1005, 3:24-4:6, 4:8-11, 7:5-22, 8:29-10:12, 13:20-16:6, Fig. 1); USAA-1003, ¶¶149-51. This is also supported by Curry’s discussions concerning the relative importance of some driving information over other driving information, which includes storing only data reflecting “possible violations of use” or “unsafe driving behavior” or only data unique or relevant to a particular entity, such as the driver’s parents, guardian, or insurance company. USAA-1005, 3:24-4:11, 7:5-9, 13:31-14:4;

USAA-1003, ¶¶149-150. The Petition also explained that a POSITA would have found obvious storage of a “selection” of the driving information as “Curry describes driving information as being derived from timestamped motion data associated with pre-specified sampling intervals, and further describes the potential to mark activity estimation results for a given interval for further processing at later times. ... Each stored activity estimation result includes a selection of driving information for the corresponding interval.” Pet., 33 (citing USAA-1005, 2:1-27, 3:24-4:6, 4:7-11, 7:5-22, 8:29-10:12, 11:3-14, 12:29-13:4, 13:29-14:26, 13:20-16:6, FIGS. 1, 3); USAA-1003, ¶¶150-151.

AT mischaracterizes Curry’s phone as requiring consideration of “*all* raw sensor data in the motion data cache at the time of a phone call to ‘precisely’ determine activity mode,” but nothing in the passages cited by AT supports this presumption. POR, 40 (citing USAA-1005, 13:27-14:4, 17:1-14, FIGs. 3, 5). Instead, Curry at 13:27-14:4 specifically indicates that subsets of data “stored in a local motion data cache...for each pre-specified sampling interval” are used to estimate activity types, and that if insufficient “data are available to identify the activity mode with high confidence,” additional data can be gathered “to make final estimations.” From this and related disclosure, a POSITA would have understood and found obvious that although more data can be leveraged when

desirable to provide more precise determinations, Curry routinely provides “high confidence” determinations based on less than “all” data stored in the cache.

USAA-1005, 13:33-14:4; USAA-1003, ¶144.

AT contends that Curry stores “**solely raw data**” and not “driving information.” POR, 38. But, as explained in the previous section, Curry describes various types of *driving information* (e.g., processed speed data, processed accelerometer data, driving safety performance data, driver safety statistics) being processed locally on a mobile device. Further, this information may be stored locally prior to transmission to an associated server, confirming local storage of information beyond raw sensor data. *See, e.g.*, USAA-1005, 11:15-25 (“driving safety data can be **recorded in mobile phones** and then transmitted”), 8:29-9:11 (processed sensor data, e.g., “location, speed, and acceleration data” is “**recorded to a local motion cache 118** for further processing”); Pet., 31-33; USAA-1003, ¶¶149-151. Mr. Wilson also confirmed that storage of sensor data in Curry’s phone would have involved storing processed sensor data, such as operational data. USAA-1088, 64:23-24, 223:8-224:17.

D. Curry-Rabu Provides The *Initialization* Limitation

The Curry-Rabu phone satisfies [1.10], because to avoid erasing driving behavior information indicating unsafe behaviors such as speeding, a POSITA

would have found obvious the configuration of client application 110 to, in response to an initialization input generated automatically in response to the Curry-Rabu phone's GPS sensor data having predetermined values reflecting a detected speed above a predetermined threshold, register the already-determined start of that driving period by recording related driving information and sensor data within the Curry-Rabu phone's long term memory module. Pet., 38-41; USAA-1005, 2:3-3:28, 6:5-22, 8:22-28, 13:20-16:33, 17:30-18:7 (disclosing transmission from the phone of important information pertaining to "unsafe driving behavior[s] such as speeding"); USAA-1003, ¶¶166-169.

As explained in the Petition, Curry describes in connection with Figure 5 (below) "timestamp[ing]" the data from embedded GPS sensor to determine a "speed measure" that is calculated "as traveled distance divided by time interval," and that can be compared against a predetermined speed threshold, "e.g., greater than 15 miles/hour," to determine whether a vehicle within which the phone is located is traveling within "a high-speed range." Pet., 39-41 (citing USAA-1005, 16:1-22, Fig. 5).

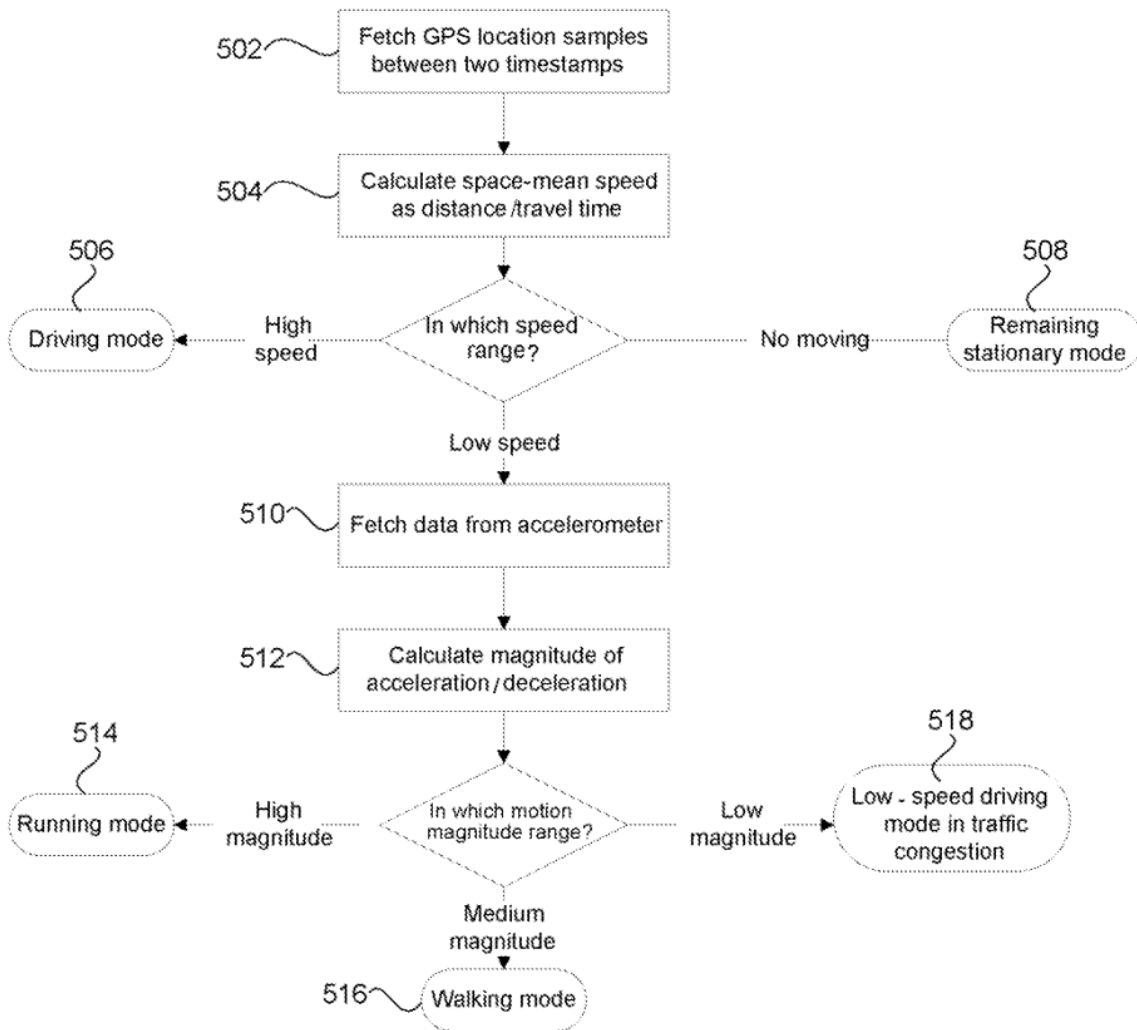


FIG. 5

USAA-1005, FIG. 5

The Panel “agree[d]” with this position that “Curry’s mobile phone 106 performs the Initialization Limitation.” Inst. Dec., 51. Further, a POSITA would have found obvious that to retain (i.e., without inadvertently erasing or overwriting with new data) important driving behavior information indicating unsafe behaviors

such as speeding, prior to transmission, such important information is moved from the short term module to the long term module of the Curry-Rabu phone's local memory. Pet., 36-41; USAA-1003, ¶¶161-169.

AT largely repeats its earlier contentions that Curry's phone does not determine a driving period and does not derive driving information. POR, 42-45. These contentions have been discussed above in Section III.A. relating to [1.6].

AT next argues that Petitioner "fails to particularly point out where the cited art discloses 'an initialization input generated automatically' according to [1.10]." POR, 45. The record refutes AT's assertions, for example, Curry indicates that the downloaded client unit 110 "record[s] the location, speed, and acceleration of" mobile phone 106 "each time a phone call is transmitted from or received by" the phone. USAA-1005, 3:24-36, 8:29-33, 13:20-14:4. Client unit 110 uses this recorded speed information to determine whether the user is driving by comparing with a predetermined threshold ("it is easy to identify driving mode when the speed is high (e.g., greater than 15 miles/hour)", and to apply pre-set permission policies to phone operations. USAA-1005, 9:5-20, 14:5-16, 14:23-26, 15:18-31, 16:27, 17:1-32. Activation of the motion recording process may be accomplished "through an **automated process** ..." USAA-1005, 13:20-26 (emphasis added), 16:7-13.

IV. MOTIVATION TO COMBINE CURRY AND RABU ²

AT fails to undermine that a POSITA would have been motivated to combine Curry-Rabu with reasonable expectation of success. AT first postulates that a POSITA would not have expected success in implementing the combination, and then accuses the combination of being rooted in impermissible hindsight. Both arguments fail for the reasons discussed below.

A. Rabu's Disclosure Confirms Combinability with Curry

1. AT's Alleged Inoperability Theories of Curry-Rabu Are Not Supported By Evidence

The POSITA would have been motivated to pursue Curry-Rabu to obtain “multiple additional advantages.” Pet., 16-17; USAA-1003, ¶¶110-115. The POSITA would have achieved those advantages by, for example, enabling Curry's phone to “make...adjustments to phone 106's operating modes, determinations of user driving behaviors, and generation of user driving scores” based on capabilities incorporated from Rabu. *Id.*, 17; USAA-1003, ¶115.

² Citations to Katayama in Ground 1A of the Petition were used as corroboration. Pet., 37, 38, 39, 41.

Ignoring these motivations, AT attempts to paint Curry-Rabu as “impracticable,” asserting that Curry-Rabu would have been incapable of providing the level of accuracy mandated for Curry’s “activity mode” detection—a mandate completely fabricated by AT and without any suggestion within Curry. POR, 48-51.

AT’s criticism presupposes that “activity mode” detection in Curry-Rabu would somehow inexplicably disrupt the detection disclosed by Curry, rather than enhancing it. This misreads the combination, since the Petition made clear that “the elements of the resulting combination would **each perform functions they had been known to perform prior to the combination**.” Pet., 18. Further, “the Curry-Rabu phone would leverage **accelerometer** orientation and motion data to determine both vehicle motion and phone docking status...” Pet., 12; USAA-1003, ¶102. The Petition therefore made clear that the Curry-Rabu phone would have consistently leveraged an accelerometer (present in Curry’s phone) to enhance the same functions for activity mode recognition by additionally enabling docking status detection. To this point, Mr. Wilson acknowledged that “[t]he same generic hardware is disclosed [in Curry and Rabu]” and that “the requirements on the Curry hardware -- the technical specifications are reasonably well predictable.” USAA-1089, 57:20-58:20.

Beyond mere speculation, neither AT nor its expert have provided specific reasoning regarding alleged inoperability. POR, 48-51; AT-2001, ¶¶161-166.

Thus, AT's theories regarding alleged inoperability of Curry-Rabu (e.g., accuracy for detecting "activity mode" based on sensor data) are not supported by record evidence. *TQ Delta, LLC v. Cisco Sys.* 942 F.3d 1352, 1358 (Fed. Cir. 2019) ("Conclusory expert testimony does not qualify as substantial evidence.").

2. AT's Alleged Incompatibility Theories of Curry-Rabu
Require Bodily Incorporation of Rabu

AT also alleges incompatibility between Curry's activity mode recognition and Rabu's motion detection techniques. POR, 49 (citing Rabu's disclosure of "compar[ing] determined frequency spectrum to one or more frequency spectra" in column 9, lines 35-38). AT further alleges "Rabu **requires** that the 'determination [of the activity mode be] made based on determining a frequency spectrum associated with the holder motion and comparing that to frequency spectra of known motions.'" POR, 50 (citing USAA-1013, 7:26-28). But this blatantly mischaracterizes Rabu's disclosure, which instead describes a determination regarding holder status "**can be** made based on determining a frequency spectrum associated with the holder motion and comparing that to frequency spectra of known motions." USAA-1013, 7:15-30.

This is an improperly narrow interpretation of Rabu's disclosure, which instead claims techniques involving detecting holder motion *without* use of frequency spectrum data. *See, e.g.*, USAA-1013, Cls. 10, 15, 20 (three out of all four of Rabu's independent claims each reciting techniques relating to monitoring motion and/or dock status of a mobile device without limiting such techniques to use of frequency spectrum data).

Indeed, AT's mandate for Curry-Rabu to use frequency spectrum data in monitoring motion data amounts to requiring the combination to bodily incorporate a subset of Rabu's teachings while ignoring others. The bedrock of obviousness is "what the combined teachings of those references would have suggested to" the POSITA, not "whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference." *In re Keller*, 642 F.3d 413, 425 (CCPA 1981); *In re Sneed*, 710 F.2d 1544, 1550 (Fed. Cir. 1983). *See also, e.g.*, IPR2017-00705, Pap. 87, 52-53 (PTAB July 31, 2018) (finding arguments assuming bodily incorporation unpersuasive and inconsistent with assertions in the petition); IPR2020-00041, Pap. 29, 28-30 (PTAB Jan. 19, 2021).

3. Curry-Rabu Does Not Require Use of Rabu's Frequency Spectra Data

As explained by Dr. Michalson, it would have been obvious to configure the Curry-Rabu phone to "leverage orientation and motion data" from its

accelerometer to “determine both vehicle motion and phone docking status upon a user accepting a phone call while driving ...” USAA-1003, ¶¶102, 136.

Curry and Rabu also confirm that it would have been obvious for the Curry-Rabu phone to use accelerometer data alone to achieve the advantages provided by the combination. Pet., 11-17; USAA-1003, ¶¶101-117. Curry describes “us[ing] acceleration data from the accelerometer to determine the change of activity mode, and ... estimate the **motion type**” USAA-1005, 16:7-22; USAA-1003, ¶103. Rabu likewise describes leveraging a “generally conventional” accelerometer to determine “both an orientation angle and motion status of the smart phone” to determine whether the phone is “docked in a moving vehicle.” USAA-1003, ¶106 (citing USAA-1013, 3:1-10, 4:21-33, Figs. 1, 4). Thus, **Rabu’s determination of orientation data does not require reliance on frequency spectrum data.**

Notably, in discussing Curry-Rabu, Dr. Michalson cites to various portions of Rabu that make no reference to frequency spectra. USAA-1003, ¶¶102-117; *see, e.g.*, USAA-1013, 1:36-2:14, 3:11-42, 3:46-4:3, 5:53-7:6, 8:1-4, 12:26-38.

AT’s arguments fail for at least these additional reasons.

B. Curry-Rabu Is Not A Product of Hindsight

AT finally accuses Curry-Rabu of being a product of improper hindsight. In doing so, AT ignores the legal standard for “impermissible hindsight,” the

predictable nature of the problems addressed by Curry-Rabu, and motivations that a POSITA would have had for implementing the solutions available through the combined teachings of Curry and Rabu. *In re McLaughlin*, 443 F.2d 1392, 1395 (CCPA 1971). *See also In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999) (“[i]dentification of...a teaching or motivation to combine in the prior art guards against any hindsight-based reconstruction of the claims.”); *Nuvasive, Inc. v. Hirshfeld*, No. 2020-1708, 10 (Fed. Cir. Aug. 18, 2021).

Each ground in the Petition is supported by the independent teachings of third party reference disclosures that further corroborate the new expert testimony from Dr. Michalson, which demonstrates the obviousness of the Challenged Claims with reference to the specific teachings of the applied prior art references, as they would have been understood by a POSITA. USAA-1003, ¶¶100-169.

For example, as explained by Dr. Michalson, Curry’s disclosure of “accounting for the context of phone usage when generating a driving score” would have motivated a POSITA to seek practical solutions for implementing “a nuanced approach to phone restrictions and to driver scoring that takes into account phone usage context.” USAA-1003, ¶¶104-105. The POSITA would have readily found solutions in Rabu, which describes the use of generally conventional sensors like those in Curry’s phone to determine “an orientation angle

and motion status of the smart phone” for discerning phone usage context. *Id.*, ¶106 (citing USAA-1013, 3:1-10).

Further, Dr. Michalson explained that a POSITA would have combined Curry and Rabu’s teachings of predictable solutions to well-known driver safety problems, since it would have “improved safety for the user, passengers, and those outside the vehicle since the user is more likely to participate in Curry’s monitoring.” USAA-1003, ¶¶72-74, 112 (citing USAA-1005, 2:3-8, 7:5-22, 8:5-18, 11:3-14; USAA-1013, 1:36-2:14). And the combination would have been the result of a POSITA merely using common sense to combine known teachings (the teachings in Curry and Rabu) to arrive at the predictable solution. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007).

V. MOTIVATION TO COMBINE CURRY, RABU AND KATAYAMA

AT then attempts to undermine Curry-Rabu-Katayama. AT first postulates that the combination has “nothing to do with” the initialization limitation. It then asserts that a POSITA would not have been motivated to combine the vehicle black box configuration of Katayama with the smartphone configuration of Curry and Rabu. Both arguments fail for the reasons discussed below.

A. Curry-Rabu-Katayama Provides the *Initialization* Limitation

Curry-Rabu-Katayama provides the Initialization Limitation of [1.10], because “to avoid inadvertent erasure of important situation data, a POSITA would have configured client application 110 to, in response to an initialization input generated automatically in response to accelerometer and/or GPS sensor data values indicating unsafe speeding during a given driving period, register the already-determined start of that driving period for purposes of recording related situation data within long term memory.” Pet., 48-51 (citing USAA-1005, 6:5-22, 8:5-11, 7:30-8:33, 11:3-14; 13:3-19, 15:7-22, 16:1-22, FIGS. 1, 5; USAA-1024, [0001]-[0002], [0011]-[0016], [0027], [0046]-[0050], [0054], [0083]); USAA-1003, ¶183.

AT insists that the Curry-Rabu-Katayama combination “has nothing to do with the ‘initialization limitation,’ particularly registering the start of a driving period, which none of Curry, Rabu, or Katayama disclose.” POR, 55. AT does not address the Panel’s observation of how a configuration of temporary and long term memories in the Curry-Rabu-Katayama phone provides the “*register*” requirement of the Initialization Limitation:

We understand Petitioner's case for obviousness to posit that configuring Curry's mobile phone 106 to employ temporary and long term memories to achieve the beneficial results described in Katayama would lead to the phone satisfying the Initialization Limitation's requirement of registering the start of a driving period in response to an automatically-generated initialization input, by moving data from temporary to long term memory when a minimum vehicle speed has been exceeded. *See* Pet. 49–51.

Inst. Dec., 56 (emphasis added).

AT instead misconstrues the Panel's statement that "We further note that claim 1 does not require separate memory structure" as "the Board notes [claim 1] does not claim utilization of long-term memory." POR, 55 (citing Inst. Dec., 56).

B. Sufficient Motivation to Combine Katayama with Curry and Rabu Exists

AT contends that "A POSITA simply would not have been motivated to look to Katayama for additional data storage details for Curry and/or Rabu, whether from Curry or Rabu, which do not make mention of additional storage needs of the type disclosed in Katayama." POR, 55-56. This is incorrect, as Curry and Katayama each contemplate scenarios that benefit from persistent and temporary storage of recorded data. Pet., 44-51 (supporting analysis). The Panel agreed that "Petitioner explains ... with a detailed discussion of how the disclosures of Curry and Katayama support this contention without the taint of hindsight." Inst. Dec., 56.

AT then postulates that a POSITA would not have been motivated to combine “the vehicle black box configuration of Katayama with the smart phone configuration of Curry and Rabu.” POR, 55-56. To the extent that AT contends that Katayama is not analogous prior art due to the “vehicle black box configuration,” the POR does not explain why Katayama’s teachings are neither “from the same field of endeavor, regardless of the problem addressed” nor “reasonably pertinent to the particular problem with which the inventor is involved.” *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). Regardless, Katayama is at least in the same field of endeavor as the invention claimed in the ’271 patent (e.g., “methods and systems for logging driving information associated with a vehicle when driven” (POR, 1)), because Katayama describes a recorder that detects accidents and/or risk incidents based on “situation data” including “acceleration data indicating acceleration applied to a vehicle, [and] position data indicating a position of the vehicle...” Pet., 41-42 (citing USAA-1024, [0001], [0011], [0013], [0058]); USAA-1003, ¶83.

AT also implies a lack of reasonable expectation of success of Curry-Rabu-Katayama, by mischaracterizing Katayama as “prohibitively different” from the ’271 patent. POR, 54-55. AT first confuses inoperability and incompatibility in characterizing Katayama as “not disclos[ing] a mobile phone.” POR, 54. This

feature need not be taught in Katayama because Curry already teaches a mobile device for recording sensor data. AT then presupposes the integration of vehicle sensors into the combination by characterizing this aspect as a “require[ment]” for Katayama. POR, 54-55. This mischaracterizes the combination, which as explained in the Petition, instead enhances the Curry-Rabu phone by incorporating Katayama’s teachings on “partitioning local memory into several sections (including sections for temporary and long term storage)” and “data handling.” Pet., 44; USAA-1024, [0012], [0015], [0048], [0049]; USAA-1003, ¶170. This 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., 45; USAA-1005, Abstract, 2:1-27, 3:24-4:6, 4:7-11, 7:5-22, 9:31-33, Fig. 1; USAA-1024, [0016], [0053], [0044], [0046]; USAA-1003, ¶174. None of these identified teachings implicate vehicle sensors. Several advantages would have motivated a POSITA to integrate Katayama into the Curry-Rabu phone. Pet., 47.

Finally, AT fails to advance evidence regarding alleged inoperability of Curry-Rabu-Katayama. POR, 54. Further, in deposition, Mr. Wilson also

admitted that “storing information in a cell phone memory or an Apple phone memory would have been routine” around the relevant time frame. USAA-1088, 49:13-15.

VI. CALLOPY- CURRY RENDERS CLAIMS 6 AND 7 OBVIOUS

The POR primarily addresses [6.9] and [7.9] which recite the same limitation. POR, 59-66; USAA-1001, 32:40-34:21; Pet., 48-51, 67-80.

AT’s positions for [6.9] and [7.9] largely repeat those it advances for [1.7] under Ground 1A that the claim language requires the driving information, which includes driving scores³, to be derived by the mobile device, i.e., alleging that only Curry’s external server calculates driving scores. *See, e.g.*, POR, 62. These arguments are addressed in Section III.B. above.

Further, Curry describes the activity mode recognition module (part of client unit 110) can “**adjust** the related safety score for the user if a violation is identified.” USAA-1005, 11:7-10. Indeed, “adjust[ing]” indicates calculation of a new value for the “safety score” on the phone, consistent with the application of Curry to [1.10] in the Petition. Pet., 76-78; USAA-103, ¶149-151.

³ AT defines “a driving score as part of the driving information.” POR, 59-60.

VII. CONCLUSION

For the foregoing reasons, Petitioner respectfully requests a final written decision confirming unpatentability of the Challenged Claims.

Respectfully submitted,

Date: May 23, 2024

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CERTIFICATION UNDER 37 CFR § 42.24(d)

Under the provisions of 37 CFR § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Petitioner's Reply to Patent Owner's Response to Petition totals 5,597, which is less than the 5,600 allowed under 37 CFR § 42.24(b)(1).

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR § 42.6(e), the undersigned certifies that on May 23, 2024, a complete and entire copy of this Petitioner's Reply to Patent Owner's Response and accompanying exhibits were provided by email, to the Patent Owner, by serving the correspondence addresses of record as follows:

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