

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 IPR2023-00768
Patent No. 10,192,369

PATENT OWNER AUTO TELEMATICS LTD's RESPONSE
PURSUANT TO 37 C.F.R. §42.120

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National Highway Traffic Safety Administration EDR Q&As, https://www.nhtsa.gov/sites/nhtsa.gov/files/edr_qas_11aug2006.pdf (Last visited - January 29, 2024)

Patent Owner Auto Telematics Ltd. (“Patent Owner”) submits this Response to the Petition filed by United Services Automobile Association (“Petitioner”) for *Inter Partes* Review (“IPR”) of claims 1-27 (the “Challenged Claims”) of U.S. Patent No. 10,192,369 (“the ’369 patent”).

I. INTRODUCTION

The ’369 patent describes methods and systems for logging driving information associated with a vehicle when driven. In one aspect, the mobile device is arranged to register the start of the driving period during which the device is installed to the vehicle and the vehicle is in use to log driving information. Importantly, the mobile device is also arranged to process sensor data during the driving period to derive driving information associated with how the vehicle is driven. The mobile device uses the sensors of the mobile device but not the sensors of the vehicle.

II. THE ’369 PATENT

A. The Problem Addressed by the ’369 Patent

Before the invention of the ’369 Patent, data logging devices for road vehicles, commonly known as “black boxes,” were used to log data about events associated with the behavior of a vehicle using the sensors of the vehicle. Such events could stem from a vehicle malfunction or driver negligence and causes of such events could be estimated from analysis of the logged vehicle sensor data.

Taking data from vehicle-integrated sensors, these black boxes were integrated with the car data network. AT-2001 at ¶¶ 32-34.

However, such black boxes that integrate with vehicle sensors were difficult and costly to install. Thus, mobile data logging devices for logging driving information (1) having their own sensors that (2) could be easily and inexpensively installed to vehicles and (3) that could perform event detection and analysis during entire driving periods while (4) managing data storage were not known in the art at the time of the invention. AT-2001 at ¶35.

B. The '369 Patent's Solution

The '369 patent is directed to methods and systems for logging driving information associated with how and when a vehicle is being driven by a driver. USAA-1001, Abstract. A mobile device including a sensor set is adapted for installation (e.g., removable physical and/or electronic attachment) to the vehicle and configured to log such driving information and process that information to detect driving incidents and maintain such driving information related to the driving incident during a driving period. *Id.*, Abstract, 3:19-34, 4:50—5:21, 8:8-17. For example, location, speed, and acceleration of the vehicle associated with how the vehicle is driven can be captured and processed, using only the sensor data from the mobile device's sensors and processing capabilities of the mobile device. *Id.*, 5:12—6:15.

“[T]he use of a mobile telecommunication device enables a data logging device to be conveniently and inexpensively retrofitted to a vehicle....A generic mobile telecommunication device already owned by a driver of the vehicle can be loaded with the application to provide such data logging functionality that would otherwise necessitate a dedicated black-box. Thus, the functionality of a black-box can be realised without additional expense.” *Id.*, 2:15-26. However, as black-box functionality is applied to a mobile phone, storage concerns arise. The invention can limit the storage of data to a selection of important data while providing focused recording on the device of data corresponding to detected events (e.g., “driving information”). *Id.*, 2:11-14; 10:50-67.

The mobile device of the ’369 patent can process sensor data from its own sensor set to determine from the sensor data what data is most important. *Id.*, 16:48-65. When a driving event is detected and considered to be important, this data is determined from the sensor data and stored to long-term storage. *Id.*, 18:5-10; AT-2001, ¶¶36-41.

III. PERSON OF ORDINARY SKILL IN THE ART

Auto Telematics (“AT”) does not dispute that a person of ordinary skill in the art (“POSITA”) would include those falling within Petitioner’s proposed definition. AT’s expert, Chris Wilson (“Wilson”), nonetheless opines that a POSITA would *also* include individuals with a Bachelor of Science degree in other

fields, including physics, and that the particular educational experience becomes less relevant as the individual's experience in the telematics field increases. AT-2001, ¶¶10-11. In this regard, Wilson opines that a person of ordinary skill in the art would include individuals with a Bachelor of Science Degree in any discipline and 3 – 5 years of experience in the field of telematics systems. *Id.*

IV. CLAIM CONSTRUCTION

In an IPR, claim terms are generally given their ordinary and customary meaning as would be understood by a POSITA at the time of the invention and in the context of the entire patent disclosure. *See* 37 C.F.R. §42.100(b); *see also Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005).¹ Here, Petitioner initially asserts that no express constructions are required in this proceeding.” Pet. at 3. Petitioner then argues that the term “driving period” “establishes just two ‘driving period’ attributes: (1) ‘the mobile device is

¹ Patent Owner notes that in the parallel District Court proceeding involving the '369 patent (among others), Petitioner sought construction of several terms including “sensor set,” “driving period,” “driving information,” and “driving score.” As to each of these terms, the Court agreed with Patent Owner that no construction was required and that the plain and ordinary meaning of each term applied.

removably attached to the vehicle’ and (2) ‘the vehicle is in use.’” Pet. at 4. Further, Petitioner asserts that “[t]hese 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.* Petitioner posited similar arguments in the parallel District Court proceeding, which arguments were rejected by the Court, and should likewise be rejected here.

Petitioner’s proposed construction is additionally flawed because it introduces unsupported limitations for the driving period not included in the claims. 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, Pet. at 4, is simply an inaccurate categorization 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. Instead, the claims require that the mobile device “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.” *See id.* at Claim 1 (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.

A. Claim Language

The '369 patent has three independent claims. Claims 1 and 26 are substantially similar and provide:

1. A mobile telecommunications device configured to log driving information associated with a vehicle, the mobile telecommunications device comprising:

a sensor set comprising an image sensor, an audio sensor, an accelerator or a positioning module, or a combination thereof;

a user interface;

a processor and;

a memory;

the mobile telecommunications device being 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/affixed]² to the vehicle and the vehicle is in use;

process the sensor data from the sensor set during the driving period to derive driving information associated with how the vehicle is driven; and

² For Claim 1, “removably attached;” for Claim 26, “removably affixed.”

store a selection of the driving information to the memory;

wherein the driving information is derived without data from vehicle sensors, and 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, the mobile telecommunications device being further configured to:

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

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

USAA-1001 at 31:42—32:10; 33:61—34:29. The remaining independent claim (Claim 27) includes the additional element reciting “the processing involving the use of a neural network on the mobile telecommunications device to determine whether the driving information represents an acceptable or unacceptable driving pattern.” *Id.*, 34:30—35:3.

Importantly, the independent claims require that the mobile device be configured to determine, “based on at least one of the inputs received by the user interface and sensor data from the devices sensor set, *a start of a driving period.*” *Id.*, 31:53-57 (emphasis added). Critical to the functionality of the invention is that the mobile device determines the start of a driving period to initialize its logging functionality on the mobile device. The independent claims also require that the mobile device “*process the sensor data from the sensor set during the driving period to derive driving information associated with how the vehicle is driven.*” *Id.*, 31:58-60 (emphasis added).

Once the start of the driving period is determined, the mobile device processes sensor data from its sensor set, from the start of the period in which the vehicle is being driven and during that entire driving period, to derive driving information associated with how the vehicle is driven and to store this derived driving information. *Id.*, 19:17-22; 20:23-29; AT-2001, ¶¶46-48.

B. The Specification Supports Patentability

According to the specification, at the time of the invention, automotive black boxes integrated with vehicle sensors were prohibitively expensive and difficult to install. *Id.*, 1:49-58. The inventor realized that use of a mobile device for automotive black box functionality would provide a convenient and inexpensive alternative. *Id.*, 2:15-26; 33-53.

“A main purpose of the mobile telecommunications device, when arranged within a vehicle in motion,...is to monitor and process sensor data captured by the mobile device, to derive driving information associated with the moving automobile 3....[T]his driving information is subsequently used by the mobile device to determine if a driving incident or event has occurred. [T]he sensor data and/or the driving information may be used to determine for example, if the driver is [cautious or reckless].” *Id.*, 13:36-55. The invention provides cost-effective black box functionality for efficiently capturing significant driving events while also providing accessible data for driver assessment and insurance rate setting. AT-2001, ¶¶49-50.

“[T]he use of such a generic mobile device in this context may be counter-intuitive to a person skilled in the art—such generic devices are not designed to withstand events such as catastrophic crashes. Furthermore, such generic devices are usually not necessarily configured to appropriately detect conditions that may need to be recorded.” USAA-1001 at 2:57-65. Thus, the invention was ahead of its time. AT-2001, ¶51.

The inventor recognized a number of other concerns regarding using a mobile device for black box functionality. For example, recognizing memory limitations of mobile devices, the inventor understood the need to “register[] the start of a driving period during which the [mobile device]...is being driven” which

“minimis(es) the unnecessary usage of memory.” USAA-1001 at 3:25-31. Further, the inventor understood the need to make utilization of the “finite storage capacity” on the mobile device more efficient. *Id.* To that end, the mobile telecommunications device “store[s] only selected driving information for...logging how the vehicle is driven during a driving period.” *Id.*, 4:50-59.

The specification defines “sensor data *and* driving information” as two different things. *See, e.g., id.*, 19:17-28. “Driving information” is defined as “any data which may be derived from raw sensor data captured by any one of the...modules.” *Id.*, 16:51-56. “The processor module is also configured to analyze sampled sensor data *and* generate[] driving information to determine if a driving incident has occurred.” *Id.*, 16:62-64. *See also id.*, 6:45; 8:1-9; AT-2001, ¶¶52-57.

The processor of the mobile telecommunications device provides a large suite of processing features similar to those of a black box, with additional features enabled by the technology of the mobile device. *See, e.g.,* USAA-1001 at FIG. 3; the processor executes downloaded application (13:57-63); forwards data related to a driving incident to insurance server and/or emergency services (13:64—14:41); determines start of driving period (18:63—19:10); continuously analyzes sensor data (17:53-55, 19:17-22); determines driving incident has occurred (16:62-64, 19:23-25, 19:29-64); performs benchmarking (23:18-40); pairs mobile device with driver and/or vehicle (10:21-26); monitors driving performance and generates user

profile (13:46-49); generates driving score (10:27-30); and displays/plays data/video feedback (10:42-49). AT-2001, ¶58.

Like a black box, the mobile device includes an event detector for detecting occurrence of a “predetermined event of significance.” USAA-1001 at 5:27-43; 32:66—3:4. The specification defines this event as a “serious accident event” or a “serious impact, and overturn[]” “corresponding to both the deceleration...and the orientation of the vehicle.” *Id.*, 5:39—6:2. However, the specification does not define, nor did the inventor intend, the predetermined event of significance to be a phone call. *See id.*, 3:36—4:49; AT-2001, ¶¶61-62.

When the mobile device performs its own processing to detect a predetermined event, it can take a predetermined action. USAA-1001, 6:41-44; 32:14-15. Such “predetermined action” can be one or more of “transmitting driving information and/or sensor data to a remote system” to alert emergency services (*id.*, 6:44-53; 32:63-67); “storing data captured at a higher...sampling rate than when an event is not detected” to prevent down-sampling and loss of detail or to prevent overwriting of the detailed event data (*id.*, 7:4-9; 32:26-28); “providing feedback to a user to indicate that an event has been detected,” such that a user can confirm or deny the event (*id.*, 7:10-16; 32:34-39), and “transferring data from...short term memory to long term memory” to prevent important event data from being overwritten (*id.*, 8:12-17; 32:19-21), for example.

Additionally, understanding the mobility of a mobile device as well as the differences in users, the inventor realized the opportunity to use the mobile device to associate driving behavior with a “driver-vehicle pair” to “ensure[] that different drivers and vehicles do not disrupt the accurate event detecting capabilities of the event detector.” *Id.*, 6:30-38. This is useful because the mobile device is not integrated to a specific vehicle like a black box, so accounting for variations in users, user devices, and the use and handling of such devices provides for more reliable data collection. *See id.*, 10:21-26. Such functionality also allows the mobile device to evaluate each driver individually and generate a user profile (*id.*, 13:46-51) and driving score (*id.*, 10:27-30) associated with the user of the mobile device. AT-2001, ¶64.

C. Prosecution History Supports Patentability Then and Now

In a Notice of Allowance regarding a related patent (US Pat. No. 9,633,487 (the ‘487 patent”), all claims were allowed after resolution of one non-final office action. USAA-1002, 8-15. Current claims 1-3 and 5-8 of the ‘487 patent were rejected under §102(b) over Plante; current claim 4 was rejected under §103(a) over Plante in view of Breed; and current claim 9 was rejected under §103(a) over Plante in view of McClellan. USAA-1002, 8-14.

The claims were found allowable over the art for similar reasons that the claims remain allowable over the cited combinations asserted here. Specifically,

Plante was not found to show or suggest a mobile device configured to “determine, based on 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,...and wherein the driving information is derived without data from vehicle sensors, and the mobile telecommunications device is controlled by a downloaded application to [control the] mobile device to detect occurrence of a predetermined event and in response take at least one predetermined action.” *Id.*, 13.

Prosecution of the claims found that “there is no driving information derived from sensor data by Plante on the mobile device itself” because “all that Plante does is to record data from the sensors. This is not processed driving information that is derived from sensor data...” *Id.*, 34. Thus, Plante was found to not disclose the device “being configured to process the sensor data during the driving period to derive driving information associated with how the vehicle is driven[,] because “as there is no processing of data on the data recorder, there can be no determination of this driving information.” *Id.*, 32-33 (emphasis in original). Rather, Plante “transfer[s] recorded data to a server for processing ...” *Id.*, 33.

D. As in Plante, Disclosure of Driving Information Logging and Processing is Lacking in References Relied Upon by Petitioner

1. Curry *et al.* – Exhibit USAA-1005³

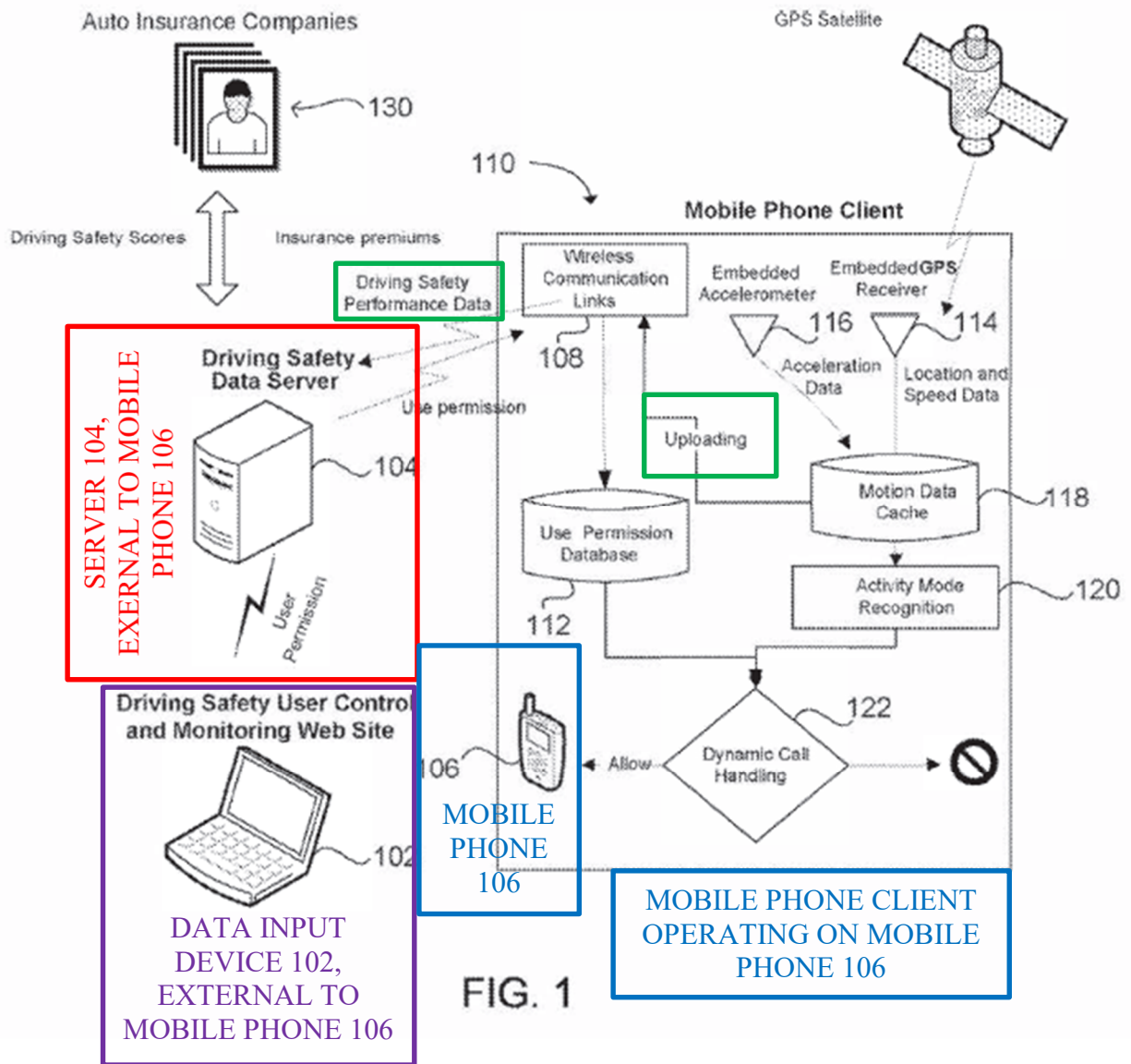
Curry discloses “[a] system and method for preventing cell phone use while driving.” USAA-1005 at Title. In this regard, “[a] computing device [other than the mobile device] in communication with [a] data server [is provided that] can be used to select timing and location information in which use of the [mobile] device is permitted or restricted.” *Id.*, 3:16-18; FIG. 1.

As illustrated in FIG. 1 below, while Curry’s mobile phone client 110 can determine from raw sensor data of accelerometer 116 and GPS receiver 114 that a user is driving at a moment in time, use permission data (from data input device 102, in purple) is required to be provided by a server 104 (in red) to permit or restrict use of the mobile phone 106 (in blue) for calling or texting. *Id.*, 8:30—9:20; FIG. 1. As such, Curry’s mobile phone 106 performs “dynamic call handling” based on estimated activity mode (e.g., standing, walking, or driving) at the time of the phone call. *Id.*, 4:16-24; FIG. 1.

Further, raw sensor data 114, 116 from the motion data cache 118 is uploaded (in green) in raw form as “driving safety performance data” to a remote,

³ Further support for the positions taken herein regarding Curry may be found in Wilson’s Declaration, AT-2001 at ¶¶66-79.

centrally-managed server 104 (in red) for processing, evaluation, statistical analysis, and scoring. *Id.*, 7:8-10; 11:15-18. *See also id.*, FIG. 2 (208, 212, 218); 13:1-2; FIG. 3 (324); 14:19-21. Other than sending the raw motion data to the server, Curry's mobile phone uses the raw data only to estimate context (e.g., standing, walking, driving) of the mobile phone use using pre-set permissions from the server. *Id.*, 9:1-3, 5-11, 31-33. Curry's mobile phone does not perform further processing, evaluation, statistical analysis, or scoring, especially as concerns how the user is driving the vehicle or for detecting a driving incident. Importantly, a phone call is not a driving incident, as previously discussed. AT-2001, ¶¶67-68.



USAA-1005, FIG. 1.

FIG. 2 and the specification make clear that any processing, evaluation, statistical analysis, or scoring is performed at Curry's remote, centrally-managed server (in red). *Id.*, FIG. 2 (below); 3:24—4:6 (server uses model in server to determine speeding, abnormal acceleration and deceleration, taking sharp turns);

7:8-17 (driving safety evaluation module on server performs statistical analysis); 8:5-18 (server uses its own interface to collect use permission data); 9:23—10:5 (raw motion data and activity mode estimation sent from mobile phone to server for safety score evaluation); 11:3-18 (server post-processes using previously collected motion data); 13:1-19 (motion data sent to server for calculating safety score); 14:17-26 (“driving safety information” is defined as collected data from motion data cache and activity mode recognition module, which is sent to the external server); 16:7-22 (unsafe driving is determined and penalized by the server); 17:24—18:3 (driving safety data are communicated to server to allow usage of the phone to be monitored). AT-2001, ¶69.

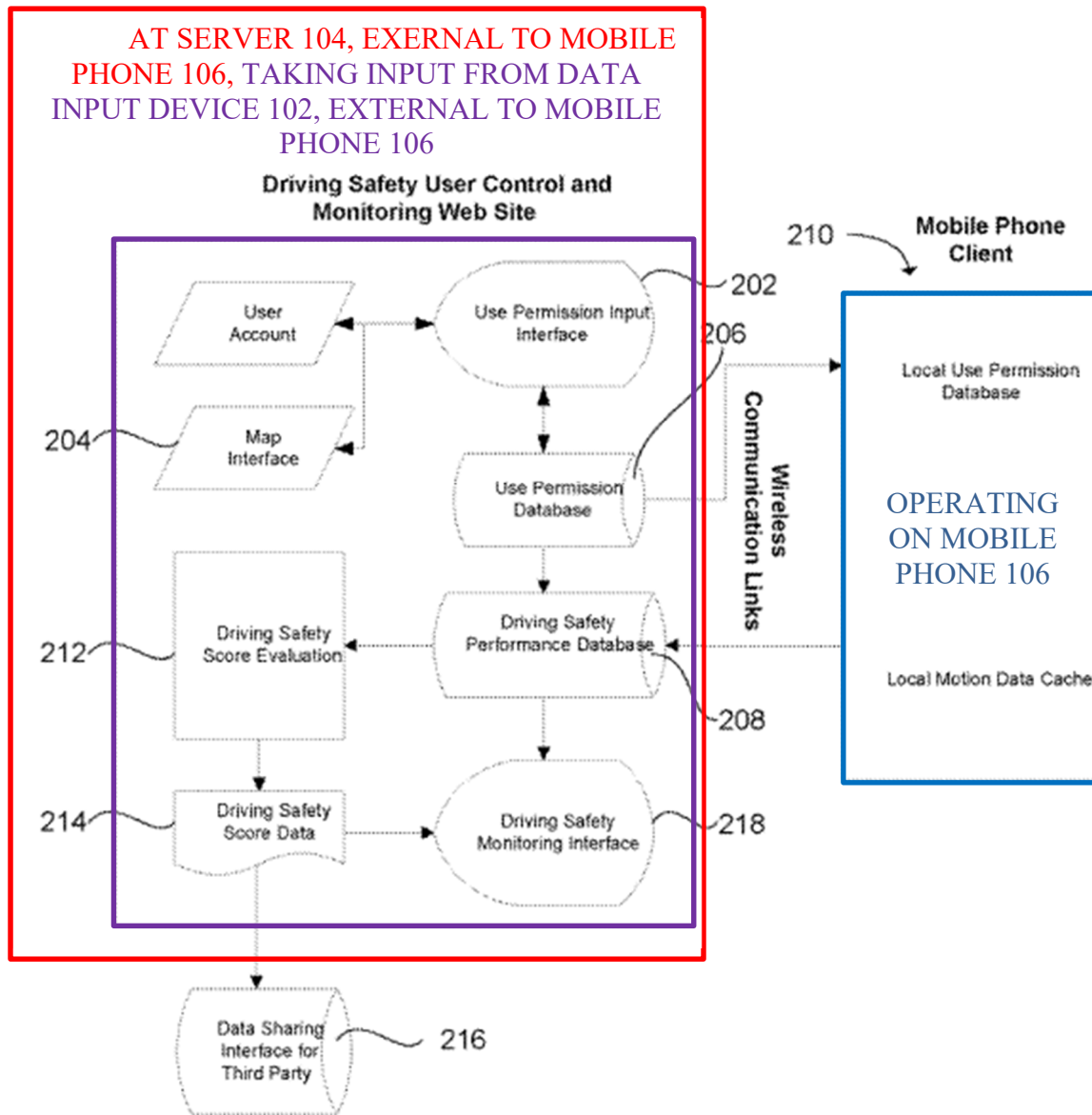


FIG. 2

USAA-1005, FIG. 2.

Curry's mobile phone, handling only raw motion data from accelerometer and GPS sensors and pre-set user permission data from an external server, and

determining only an estimate of whether a vehicle is driving, thus does not disclose, teach, or suggest a mobile device (1) determining the start (duration or end) of an actual driving period, (2) processing sensor data from a sensor set to derive driving information associated with how the vehicle is driven throughout that driving period, or (3) storing a selection of such driving information. AT-2001, ¶71.

Rather, Curry discloses a system and method that collect speed and location information at a time at which, and for a period after which, the user's mobile device has been triggered to detect such data after a phone call (or text) is initiated or received. *See* USAA-1005, FIG. 4 (below). Specifically, “[w]hen a call is made or received using a mobile phone, the mobile phone can record location, speed, and acceleration data from sensors embedded in the wireless device,” *Id.*, 8:30-32, and then store that raw data “for an extended time period...to provide sufficient information for a user activity mode recognition program,” *id.*, 9:1-3, which program “estimates the context of mobile phone use...[and] can be used to determine if the use of a mobile phone...violates the pre-set permission policies.” *Id.*, 9:6-11; AT-2001, ¶72.

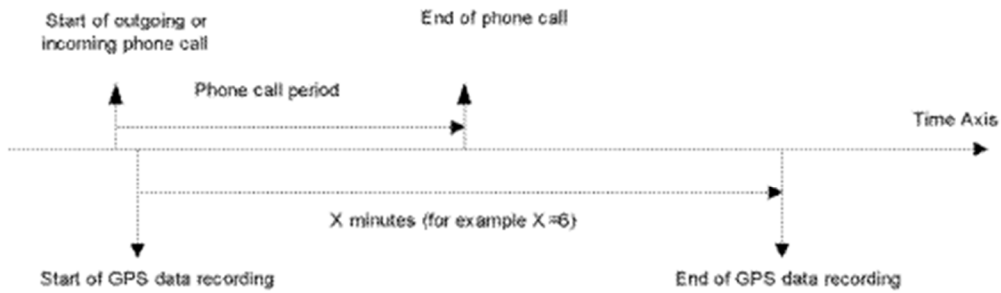


FIG. 4

USAA-1005, FIG. 4.

The server may use such information to assist in scoring a driver and determining use permission policies. *See, e.g., id.*, 13:1-19. Thus, when the program later determines that the user is driving during a call, a call handling program may then control (*e.g.*, limit or prohibit) phone operation using these scores and policies. *Id.*, 8:4-27, 9:5-20.

Because Curry addresses the problem and dangers associated with distracted driving caused by mobile device usage, it need not (and does not) disclose monitoring how a vehicle is being driven at all times. Curry does not disclose any data collection unrelated to the phone call, and specifically does not disclose any time period for data collection, other than a period starting with a phone call. *See id.*, FIG. 4. Rather than tracking a user's driving information from the start of and throughout a driving period, the Curry system triggers all motion data collection upon the initiation or receipt of a call (or text) at the mobile device. *See id.* Curry's

mobile device merely stores raw sensor data and estimates a context or activity mode of mobile phone use, e.g., simply whether a user is driving, walking, or standing still, and whether a user is permitted to operate the mobile phone in that context. *Id.*, 9:1-11; AT-2001, ¶¶74-76.

As applied to the claims of the '369 patent, Curry suffers from similar shortcomings as were found for Plante in prosecution: (1) Curry's mobile device does not determine a start of a driving period, or a driving period, as required by the claims; (2) Curry's mobile device only records raw sensor data, and does not process driving information; (3) any analysis that Curry's mobile device performs regards phone call handling that depends only on *whether* (not how) a vehicle is driving, as estimated from raw sensor data, and a preset permission, both untethered from driving information; (4) Curry's mobile device does not detect a predetermined event nor provide feedback to the driver regarding the predetermined event; and (5) the phone call of Curry is not a predetermined event as required by the claims. AT-2001, ¶79.

2. Rabu – Exhibit USAA-1013⁴

⁴ Further support for the positions taken herein regarding Rabu may be found in Wilson's Declaration, AT-2001 at ¶¶80-92.

Rabu provides a method for determining an orientation angle and movement of a portable media device (“PMD”) and determines differing “modes of operation” of that device based on a frequency spectrum associated with the device’s motion. USAA-1013, Abstract, 2:61-3:4. However, Rabu fails to disclose, teach, or suggest the determination of the start of a driving period, the processing at the PMD of sensor data to derive driving information associated with how the vehicle is driven, or storing a selection of such driving information into memory on the PMD, as required by the claims. Rabu describes determining a “holder status” that indicates “whether the PMD is docked, resting on a surface, or being held,” *id.*, 1:60-62, and determining a “holder motion status” that includes “determining whether the PMD is in a moving vehicle, in a stationary vehicle, being held by a moving person, or being held by a stationary person.” *Id.*, 1:62-65; AT-2001, ¶¶80-81.

Rabu determines holder status by measuring orientation angle of the PMD in a holder. USAA-1013 at 5:5-9. Once the measured orientation angle indicates a docked position, Rabu determines a frequency spectrum associated with the holder motion, (*id.*, 4:29-33), and thereafter determines a “mode of operation” for the PMD based on that motion status. *Id.*, 5:53-55; FIG. 5. In contrast to the ’369 patent’s location determination, Rabu relies on frequency analysis to determine small movements of a PMD for distinguishing its mode of operation. *Id.*, 2:65-3:1;

compare to USAA-1001 at 16:15-24. While Rabu is concerned with “the difference between the first location and the second location [being] more than a threshold” to determine movement differences between a moving vehicle or walking person (USAA-1013 at 4:52-58), Rabu is not concerned with initializing a driving period based on these differences and does not identify the driving period for processing sensor data. Rabu goes no further than attempting to identify that a vehicle is moving at a time that a PMD is docked. AT-2001, ¶¶82-83.

Rabu’s PMD does not process raw sensor data to identify driving information as required by the claims. Rabu is also not concerned with distinguishing and logging driving information within a specific driving period, nor does Rabu cure any shortcomings of Curry with regard to meeting claim features for logging such driving information. Specifically, even though Rabu purportedly discloses identifying modes by determining a type of motion based on frequency (USAA-1013, 3:1-4), Rabu does not disclose how frequency spectra are compared to determine the start of a driving mode.

Rabu describes the generation of one frequency spectrum from multiple samples over time as relating to one type of movement. There is no explicit disclosure of detecting a change of movement or using this to determine the start of a driving period. Further, there is no disclosure of comparing sequential frequency spectrums that change and accordingly indicate a change of motion from a “no

driving” to a “driving” state/mode. Still further, there is no disclosure of determining how a vehicle is being driven based on comparisons of “driving” frequency spectra. AT-2001, ¶86.

Rabu determines a motion *status* at a point in time, or “after a certain period of time.” USAA-1013, 4:25-33, 47-54. Holder status, which is required to determine Rabu’s modes, is determined at a “current” time based on when a match to a stored orientation angle is found. *Id.*, 8:25-37. Similarly, holder motion status is determined at a point in time that a frequency spectrum is captured to determine, by comparing the frequency spectrum to a known stored spectrum, that the PMD “is docked in a moving vehicle.” *Id.*, 9:35-49. Rabu merely takes snapshots of frequency spectra and compares them to limited stored frequency spectra. Using only snapshots in time, Rabu cannot, and does not, disclose determining a start to a mode, such as when a holder starts driving. Rabu’s “modes” simply identify whether a PMD is in a vehicle and whether the vehicle is moving. *See id.*, 5:53—6:17. Nor does Rabu associate any of Rabu’s driving modes with “how the vehicle is being driven.” AT-2001, ¶¶87-88.

Further, Rabu lacks reliability in determining holder status and motion status and, thus, has difficulties in determining its modes. This is because Rabu’s determination of both holder status and motion status is based only on a comparison to stored data at a particular time. *See, e.g.*, USAA-1013, 8:27-37;

9:14-24; 9:35—10:7. Because Rabu merely determines status of the holder at a particular time, it does not determine an exact time when status changes, only that it had changed between two points in time. AT-2001, ¶89.

Rabu's determinations of mode based on holder and motion status are also unreliable and inconsistent. For example, even before determining holder motion status, Rabu's system may not be able to determine holder status, thus placing Rabu's PMD in a default mode. USAA-1013, 8:66-67. Further, in determining holder motion status, it is "unlikely that two frequency spectra will be an exact match." *Id.* 10:14-18. GPS may be used instead to determine holder motion status, but such an option only determines "whether [the holder] is *more likely* in a moving car or being carried by a walking person." *Id.* 10:35-42 (emphasis added). AT-2001, ¶90.

Further, the determination of Rabu's snapshot of holder motion status is unreliable to determine a particular motion, at least because there is no way that Rabu's storage can store enough frequency spectra to match the spectra of different PMDs, drivers, vehicles, roadways, and situations so that each distinct activity experienced by a PMD holder would have a distinct frequency spectrum for comparison. Thus, the overall accuracy of correctly determining motion status would be very limited for different mobile devices, drivers, vehicles, roadways, and situations, and the expectation of success in combining Rabu with Curry for

improved mode determination would have been low for a POSITA attempting to implement the features of the '369 claims. *Id.*, ¶¶91-92.

3. Katayama *et al.* – Exhibit USAA-1024⁵

Katayama is directed to “a vehicle-mounted driving recorder that can facilitate an after-the-fact analysis on not only situation data at a time of an accident but also situation data at a time of [a risk incident].” USAA-1024, Abstract, [0009]. Katayama is prohibitively different from the '369 patent: (1) Katayama does not disclose a mobile telecommunications device (e.g., mobile phone); (2) Katayama is akin to a black box data recorder that is required to be electrically connected to the sensors of a vehicle; and (3) Katayama requires data from the vehicle sensors. *See id.*, Abstract, [0038], FIGs. 4-6. For example, Katayama’s device derives situation data from the vehicle sensors, where “[t]he situation data is vehicle speed data transmitted from a vehicle speed sensor.” *Id.*, [0038]. AT2001, ¶139.

These characteristics of Katayama are in direct conflict with the requirements of the '369 patent. For example, Katayama is not a mobile telecommunications device as required by claim element [1.1], does not have a

⁵ Further support for the positions taken herein regarding Katayama may be found in Wilson’s Declaration, AT-2001 at ¶¶141-162.

downloadable application as required at least by claims 2, 3, 10, 11, 13, 14, and 18, and requires vehicle sensors, in conflict with claim element [1.9]. *See, e.g.*, USAA-1024, Abstract, [0038], [0042]-[0044]. Additionally, Katayama's device is powered by "electric power supplied from a vehicle battery," further illustrating that Katayama's device is not mobile. *Id.*, [0039]. Katayama's device features are similarly incompatible with the use of Petitioner's Curry-Rabu phone. Further, neither Curry nor Rabu disclose the need for distinguishing long-term versus short-term storage, as required by claim elements [1.10]-[1.13]. AT-2001, ¶140.

V. GROUND 1A: CLAIMS 1-4, 6, 9-12, 16-24, 26 ARE PATENTABLE OVER THE COMBINATION OF CURRY-RABU-KATAYAMA

Under Ground 1A, Petitioner contends that claims 1-4, 6, 9-12, 16-24, and 26 are unpatentable as obvious over the combination of Curry, Rabu, and Katayama. Pet., 6-67. A patent claim is unpatentable under 35 U.S.C. §103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious to a POSITA at the time the application was filed. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). A determination of obviousness cannot be based on "mere conclusory statements." *In re Magnum Oil Tools Int'l, Ltd.*, 829 F. 3d 1364, 1380 (Fed. Cir. 2016). "[I]nstead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness" based on a

combination of references. *See In re Nuvasive, Inc.*, 842 F.3d 1376, 1382 (Fed. Cir. 2016); *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). The requirement of a reason to combine cited references is a safeguard against hindsight bias, which is characterized by the “temptation to read into the prior art the teachings of the invention in issue.” *KSR*, 550 U.S. at 421 (quoting *Graham*, 383 U.S. at 36).

“In an [IPR], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring IPR petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). Additionally, 37 C.F.R. §42.104(b)(4) requires that the Petition “specify where each element of the claim is found in the prior art....” This burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). Petitioner has not met this burden because Petitioner has failed to show that the combination of Curry and Rabu teaches or suggests all the elements of claims 1, 2, 5, 9, and 11-13.

A. Claim 1 is Patentable Over the Combination of Curry-Rabu-Katayama at Least Because the References, Alone or In Combination, Does/Do Not Teach, Suggest, or Render Obvious All Elements of Claim 1

[1.1]⁶ A mobile telecommunications device configured to log driving information associated with a vehicle,

Curry, Rabu, and Katayama, alone or in combination, does/do not teach, suggest, or render obvious all of the elements of claim element [1.1]. Petitioner cites to a “the Curry-Rabu-Katayama phone to process ‘raw data’ from a driving period to log driving activity and derive driving information associated with a user’s driving behavior” in several locations of Curry’s specification, but none of the citations discuss logging driving information as required by the claims. *See* Pet. 28. “Driving information” as required by the claims, is “*associated with how the vehicle is driven.*” USAA-1001, Abstract. This driving information may include detected driving events, including driving anomalies. *See id.*, 19:17-64; *see supra*, Section II.C; *see also* AT-2001, ¶97.

Such driving information may be utilized for emergency services or in the same way data from a vehicle’s black box would be utilized. USAA-1001 at 2:65—3:2; 5:12-60; 6:39-53. The mobile device must be able to detect events by

⁶ Patent Owner adopts the same numbering convention for each particular element of the contested claims as Petitioner for the convenience of the Board.

analyzing sensor data from the mobile device, without the need for sensor data from the vehicle's sensors. *Id.*, 31:63-64.

Petitioner's citations do not demonstrate this same functionality. For example, Petitioner states that “[t]he Curry-Rabu phone includes client 110 (downloaded from server 104), which enables determination of whether an associated vehicle is being driven.” Pet. at 28 (emphasis added). Yet, “whether an associated vehicle is being driven” is not “*how* a vehicle is being driven,” which is what serves to provide the derived “driving information” of the claims. *See* USAA-1001, claim element 1.7. Further, Petitioner cites to Curry to erroneously purport that “Client 110 additionally enables the Curry-Rabu-Katayama phone to process ‘raw data’ from a driving period to log driving activity and derive driving information associated with a user’s driving behavior.” Pet. 28. *See also* AT-2001, ¶98.

However, there is nothing in Petitioner's cited portions of Curry that indicates that any raw data is “from a driving period to derive driving information associated with a user’s driving behavior,” and certainly not according to the claims. Petitioner cites to a wide swath of information in Curry (USAA-1005, Abstract, 2:1-27, 3:1—4:11, 7:5—8:2, 8:29—10:26, 13:27-33, FIG. 1) but never points out what portion of this disclosure indicates that Curry's phone “derives driving information associated with a user’s driving behavior.” *See* Pet. 28. These

cited portions of Curry relate only to collecting raw data to determine “user activity mode recognition,” that is, the “context of mobile phone use.” e.g., whether a phone is being used “while driving, walking or remaining still” at the time of a phone call. *See, e.g., id.*, 8:29—9:20; AT-2001, ¶99.

Petitioner further mis-cites claim element 1.1 as “log[ging] driving *activity* associated with a vehicle” (Pet. 28), apparently to inaccurately mold Curry’s “*activity* mode recognition” to the claims. Petitioner further purports that Curry discloses “us[ing] the derived driving information to generate a ‘driving safety score’ for the user,” but it is clear that the mobile phone of Curry does not “use the derived driving information to generate a ‘driving safety score.’” Rather, Curry’s phone, at best, “store[s] raw data...for a user activity mode recognition program,” while Curry’s “driving safety data server 104” (off the phone; see USAA-1005, FIG. 1) displays data “through an interactive user control website” (off the phone; see *id.* at FIG. 1, element 102) “to enable visualization of possible violations of mobile phone use or unsafe driving behavior....” *Id.*, 9:23-28. Moreover, even if “speeding, abnormal acceleration and sharp turns” can be said to be “driving information,” this determination is clearly done off of Curry’s phone. *See id.*, FIG. 1; FIG. 2. AT-2001, ¶100.

Further, because no driving information is determined by Curry’s mobile phone (*see* USAA-1005, FIG. 1, “Uploading” raw data from “Motion Data Cache

118” and transmitting raw data as “Driving Safety Performance Data” to Driving Safety Data Server 104;” *see also id.*, FIG. 2), it is Curry’s server that actually logs driving information, not Curry’s mobile phone. *See* USAA-1005, FIG. 2, 13:1-19. Further, Curry’s description of its FIG. 3 does not help Petitioner’s argument, as it discloses a collection of raw sensor data merely for “estimat[ing] the type of activity” (*id.*, 27-33) “to allow or disallow users to receive or make a call, text a message, ...or use other components...on a ...a mobile phone” (*id.*, 14:5-8). AT-2001, ¶101.

Further, Curry’s server does all post-processing related to scoring. *See* USAA-1005 at 9:23-28; 11:7-10; 12:19—13:19; 14:17-23; FIG. 2. “The risky behaviors of talking while driving or texting while driving may not be identified in real-time due to limited data, but the post-processing technique can deliver high-confidence estimation results. *Id.*, 16:13-18. *See* AT-2001, ¶102.

[1.3] a user interface;

Claim element [1.3] requires “a user interface” of the mobile phone. USAA-1001 at 31:42-48. Petitioner, however, repeatedly cites to the user interface of Curry’s server, not Curry’s phone. For example, Petitioner cites to Curry at 8:5-18, which references a “graphical user interface” of “data input device 102,” which is external to Curry’s phone, in communication with remote server 104. *See* USAA-1005, FIG. 1. Further, Petitioner cites to Curry at 21:23-25, which again refers to

the “graphical user interface” of server 104. USAA-1005 at 9:23-28; 10:2-5. The user interface of the server does not satisfy [1.3]. AT-2001, ¶104.

[1.6] the mobile telecommunications device 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;

Curry, Rabu, and Katayama, alone or in combination, does/do not teach, suggest, or render obvious all of the elements of claim element [1.6]. At no point does Curry disclose or suggest the determination of “a start of driving period.” Rather, as Petitioner concedes, Curry merely describes two modes: (i) a *communication* mode that allows for normal phone usage, and (ii) a *monitoring* mode that restricts calling, texting, and or software use on the phone to promote driving safety. Pet., 12 (citing USAA-1005, 9:15—10:14, 12:20—15:22, FIGs. 3, 4). The input on which Petitioner relies to meet [1.6], however, is Curry’s receipt (or attempted placement) of a phone call or text message. Pet., 32-33.⁷ See also AT-2001, ¶¶105-106.

⁷ There is no disclosure in Curry for Petitioner’s purported “manually changing activity modes.” See Pet., 32.

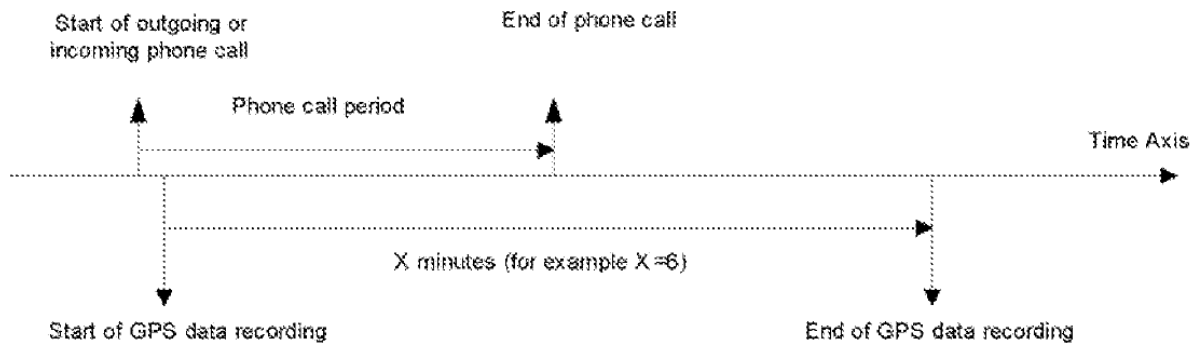


FIG. 4

USAA-1005, FIG. 4.

As seen in FIG. 4, when the vehicle is being driven, the start of an outgoing or incoming phone call starts the recording of raw data from the mobile device's sensors, which raw data is recorded for some pre-set duration. *Id.*, 16:7-13. Based on this raw data, Curry's phone may estimate its activity status as "driving, walking, remaining still, or unknown...." *Id.*, 10:16-26 ("If the status of the mobile phone user is recognized as driving, the mobile phone can automatically switch to the GPS navigation mode to prevent the use of communication capabilities...[while] if the mobile phone user is recognized as not driving, the mobile phone can [operate in] communication mode."). If Curry's activity status cannot be sufficiently estimated due to insufficient data or a change in activity, Curry turns to its remote server to post-process data for higher confidence in the estimation results. *Id.*, 16:13-22.

Importantly, because the data recording period is initiated by the start of an outgoing or incoming phone call (or text message), Curry does not determine the “start of a driving period,” because the triggering event (the phone call or text) does not occur at the start of the period in which the vehicle is being driven. *See, e.g.,* USAA-1001 at 2:9-11 (defining the driving period as the period in which the vehicle is being driven by a driver); 3:21-23 (same).

Instead, Curry, at most, discloses a call handling program that is limited to handling a call/text at the time the call/text is received or made. USAA-1005, 4:16-24. It is clear from the disclosure of Curry that the role of the recording is to collect data for later processing to analyze driver safety at the remote server, not the phone. The recording period does not start a “driving period” as claimed; it merely discloses the start of a recording period, which is not the entire period in which the vehicle is being driven as required by the claims. USAA-1005 at 14:17-21, FIG. 2; AT-2001, ¶¶106-108.

Further, because Curry’s recording period is a finite time period with no association to a driving period (*see, e.g.,* USAA-1005 at 16:10-13, FIG. 4, defining the recording period beginning with the phone call or text message as a finite period of time, *e.g.,* 6 minutes), Curry does not disclose the recording of sensor

data during the entirety of the driving period.⁸ Instead, Curry simply records raw sensor data for some arbitrary period of time that is untethered to the claimed driving period. *Id.*, 16:7-13. As such, not only does Curry not determine the start of a driving period, Curry discloses no way to determine the entirety of the driving period. AT-2001, ¶109.

Combining Curry with Rabu fails to resolve these deficiencies. As noted above, Rabu has nothing to do with the determination of the start of a driving period. Rather, Rabu determines a holder status and a holder motion status for a mobile device, using the device's orientation angle and frequency spectrum, and from those statuses, the mode the device may be in (e.g., standing still, walking, or driving). USAA-1013, 7:31-60; FIG. 5. Rabu's unreliable methodology of relying on a device's frequency spectrum to determine whether the device is located in a moving vehicle does not determine when a driving period began; instead, it simply determines whether the device is held in a moving vehicle at a particular moment

⁸ Although not expressly claimed, as the driving period claimed by the '369 patent necessarily includes only the period in which the vehicle is being driven, the end of that driving period must also necessarily be determined. *See, e.g.*, USAA-1001 at 20:23-38; FIG. 4a.

in time. *See, e.g., id.*, FIGs. 8, 9. As such, Rabu fails to address the deficiencies in Curry. AT-2001, ¶110.

Petitioner did not cite to Katayama for this claim element, as Katayama does not disclose any aspect of this claim element.

[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;

Curry, Rabu, and Katayama, alone or in combination, does/do not teach, suggest, or render obvious all of the elements of claim element [1.7]. Claim element [1.7] requires the mobile device to process raw data from its sensor set to derive driving information associated with how the vehicle is being driven. USAA-1001, 31:58-60. Petitioner attempts to meet this claim element in Curry by focusing on the mobile device's determination of "whether" a vehicle is being driven, not *how* the vehicle is being driven. *See* Pet., 28, 35-37. Nowhere in Curry is the derivation of "driving information" related to *how* the vehicle is driven, as claimed by the '369 patent, disclosed or suggested. AT-2001, ¶111.

Further, as discussed above, Curry does not disclose or suggest that processing according to the claims is performed on the mobile device itself. Curry's processing on its mobile phone merely determines whether to allow a phone call based on a pre-set user permission and an estimated activity mode. USAA-1005, 3:2-23. Contrary to Petitioner's expert's assertion, to the extent that

any processing is disclosed in Curry, a remote server processes raw data sent to it by Curry's mobile phone. *See, e.g., id.*, FIG. 1 (showing the uploading of raw data from the motion data cache 118 and transmitting raw data as driving safety performance data to driving safety data server 104); FIG. 2 (same); 3:24—4:5 (explaining that the mobile device's mobile data cache can transmit raw sensor data to a remote data server so that the server can determine a driver safety statistic dependent on certain user behaviors). This claim element clearly requires that the phone process data to derive "driving information." As that is done only on Curry's remote server, Curry does not teach or suggest this element. AT-2001, ¶¶112-113.

Combining Curry with Rabu fails to solve these problems. Rabu merely determines a holder status and a holder motion status for a mobile device, using the device's orientation angle and frequency spectrum while in a holder, respectively, and from those statuses, the mode the device may be in (e.g., standing still, walking, or driving). USAA-1013, 7:31-60, FIG. 5. Rabu's unreliable methodology of relying on a device's frequency spectrum to determine whether the device is located in a moving vehicle does not determine when a driving period began; instead, it simply determines whether the device is held in a moving vehicle. *See, e.g., id.*, FIGs. 8, 9 (determining whether the device is in a moving vehicle and

operating the device in accordance with that determination). As such, Rabu fails to address the deficiencies in Curry. AT-2001, ¶¶114-115.

Petitioner cites to Katayama for its “situation data,” further stating that “the POSITA would have configured the Curry-Rabu-Katayama phone to leverage Katayama’s data management techniques” (Pet., 37), but a POSITA would not have had reason to look to Katayama, which does not disclose a mobile telecommunications device, is required to derive situation data from vehicle sensors for its “data management techniques,” and is required to be electrically connected to a vehicle, in conflict with the claims and Petitioner’s own intentions for the Curry-Rabu phone combination. *See supra*, section IV.D.3.

[1.8] store a selection of the driving information to the memory;

Curry, Rabu, and Katayama, alone or in combination, does/do not teach, suggest, or render obvious all of the elements of claim element [1.8]. Claim element [1.8] requires that the mobile device store a selection of the derived driving information to the memory of the phone. USAA-1001, 31:61-62. Petitioner contends that 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. To the extent that Curry stores sensor information, it is solely raw data, not “information derived from processed sensor data,” and certainly not “driving

information” as required by claim element [1.8]. *See* USAA-1005, FIG. 1; 8:30—9:33; 11:15-18.; *see also* AT-2001, ¶¶116-117.

As Curry further points out, “[d]ata from the motion data cache 304 and the activity mode recognition module 306 can be transmitted to a local driving safety performance database 324. The collected driving safety information [i.e., here, only raw data] can be sent back to the server 322 through mobile communication links 320.” *Id.*, 14:19-23. Further, as discussed above, to the extent that Curry discloses the derivation of driving information, Curry describes this as post-processing by the remote server, not by the mobile device. *Id.*, 11:15-18; 16:7-18. Moreover, combining Rabu with Curry does not further disclose the storage of a selection of driving information to the memory of the mobile device for the reasons stated above. AT-2021, ¶¶118-119.

Further, Petitioner asserts that “a POSITA would have recognized that in the Curry-Rabu-Katayama phone, a plurality of ‘selections’ of driving information representing specific driving behaviors are preserved through storage in long-term memory, similar to Katayama’s storage of ‘important’ situation data in its ‘situation data recording section.’” Pet. 38. However, neither Petitioner nor Michalson provides any evidence for this assertion. Apparently to offset this omission, Petitioner notes without further explanation that “the plain meaning of a ‘selection of the driving information’ is not limited to a selection of a subset of the

same, but instead is broad enough to encompass selection of some or all of that information,” and resorts to an inapplicable PTAB Appeal case to assert that “[t]he ‘selection’ of driving information is improper and non-limiting inferential claiming.”⁹ Petitioner cannot merely wish a claim of obviousness; it must provide applicable evidence. Further, for the reasons provided for claim element [1.7], a POSITA would not have combined Curry-Rabu-Katayama, even for Katayama’s “storage of ‘important’ situation data.”

[1.10] the memory comprises: a long term memory for persistently storing driving information and a short term memory for transiently storing driving information,

⁹ Nowhere in *Ex Parte Sullivan*, Appeal No. 2002-1924 (PTAB June 20, 2016) is a discussion of or holding regarding “improper inferential claiming.” Petitioner may be referring instead to *Ex Parte Sullivan*, Appeal No. 2014-005800 (PTAB 2016). *Ex Parte Sullivan*’s “improper inferential claiming” rule does not apply to claim element [1.8]. Nowhere in patent law is it mandatory to positively recite each method step. Regarding claim [1.8], “selecting” does not have to be a method step in order for “selection” to hold meaning in the claim. Further, in *Ex Parte Sullivan*, the issue regarded a potentially ambiguous part of an apparatus, not a claim step. *Ex Parte Sullivan*, Appeal No. 2014-005800 (PTAB 2016), at 4.

Curry, Rabu, and Katayama, alone or in combination, does/do not teach, suggest, or render obvious all of the elements of claim element [1.10]. As an initial matter, Petitioner’s argument for the necessity of Katayama’s storage configuration is based on a flawed premise of what the purported Curry-Rabu phone might require for storage, or from which storage the Curry-Rabu phone could benefit. *See* Pet. 42-44. The Curry-Rabu phone merely records raw data in Curry’s motion data cache before transmitting it to Curry’s remote server for additional analysis, including detection of driving incidents. *See supra* section IV.D.1. The Curry-Rabu phone does not detect driving incidents, but merely handles phone calls based on raw sensor data. *Id.* As indicated by Petitioner’s combination, an incoming phone call, for example, would start recording of raw sensor data in motion data cache. *Id.* That raw sensor data is then analyzed by Curry’s activity mode recognition program merely to estimate the context of the phone call, that is, to determine whether the Curry-Rabu phone was held in an activity mode of driving, walking, or standing still at the time of the phone call. *Id.* Further, as was already laid out, the Curry-Rabu phone does not process raw sensor data to determine “driving information” as required by the claims. *Id.* Driving information and raw sensor data are not the same thing. *Id.*; AT-2001, ¶155.

In contrast, the mobile device of the ’369 patent has a specific storage configuration so that it stores some driving information in long term storage

(protected storage 34b) and some driving information in short term storage (buffer 34a). *See* USAA-1001, FIG. 3, 17:8-14. The reason for this storage configuration is clearly laid out in the specification of the '369 patent. *See id.* at 4:50-59; 5:12-16; 5:27-28; 6:41-44; 7:53-61; 7:62—8:7; 8:8-17; AT-2001, ¶156.

Because the Curry-Rabu phone does not detect the occurrence of a predetermined event of significance (such as a crash or other driving incident), the Curry-Rabu phone does not store driving information as claimed. *See supra* section IV.D.1. Instead, if one were to map the combination of Curry-Rabu to the claims as laid out, the appropriate mapping might be such that the server of the Curry-Rabu phone—not the phone itself—processes the raw sensor data, determines driving information, detects a driving incident from the driving information, and stores driving information and/or sensor data. Thus, the combination of Curry-Rabu-Katayama does not disclose “a long term memory for persistently storing driving information and a short term memory for transiently storing driving information” according to claim element [1.10], and Petitioner has not sufficiently cited to aspects of the combination that would disclose this claim element. AT-2001, ¶¶157-158.

Michalson is wrong in asserting that “[Curry’s] phone includes all of the necessary sensors, processing, and memory to derive driving information.” USAA-1003, ¶ 161 (citing USAA-1005, Abstract, 2:1-27, 3:24-4:11, 7:5-22, 8:29—10:12,

13:20—16:6, FIGs. 1, 3). Regardless of Curry’s sensors, Curry does not disclose processing by the Curry phone to derive driving information or memory of the Curry phone to store driving information according to claim element [1.10]. *See supra* section IV.D.1. Further, Petitioner is wrong in asserting that Curry’s phone, 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 storing such data. Pet. 42-43 (citing USAA-1024, ¶¶ 1, 27, 46-52). Because Curry’s phone does not detect incidents, “important situation data” would not be determined by Curry’s phone and there would be no reason, according to the claims, to persistently store such data. *See supra* section IV.D.1. No proposed combination with Curry can cure these deficiencies. AT-2001, ¶159.

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

For reasons similar to those provided for claim element [1.10], the combination of Curry-Rabu-Katayama does not disclose claim element [1.11], further because Petitioner has not cited to aspects of the combination that disclose this claim element. Further, no part of the combination discloses all aspects of this claim element regardless of how the references are combined. For example, the

memory of Curry's server cannot meet this requirement. *See supra* section IV.D.1.

AT-2001, ¶160.

[1.12] the mobile telecommunications device being further configured to: write driving information to the short term memory at a predetermined update rate during the driving period in a predetermined sequence

For reasons similar to those provided for claim element [1.10], the combination of Curry-Rabu-Katayama does not disclose claim element [1.12], further because Petitioner has not cited to aspects of the combination that disclose this claim element. Further, no part of the combination discloses all aspects of this claim element regardless of how the references are combined. *Id.*, ¶161.

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

For reasons similar to those provided for claim element [1.10], the combination of Curry-Rabu-Katayama does not disclose claim element [1.13], further because Petitioner has not cited to aspects of the combination that disclose this claim element. Further, no part of the combination discloses all aspects of this claim element regardless of how the references are combined. *Id.*, ¶162.

B. Petitioner Lacks Sufficient Motivation to Combine Curry, Rabu, and Katayama

1. The Combination Would Provide No Reasonable Expectation of Success

For a proposed combination of references to establish obviousness of a claimed invention, a POSITA must have a reasonable expectation that the combination would be successful, and evidence showing that there is “no reasonable expectation of success may support a conclusion of nonobviousness.” M.P.E.P. §2143.02 (*citing In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA (1976))). Here, Petitioner’s proposed combination of Curry and Rabu ignores what any POSITA would have recognized as fundamental flaws in Rabu that would have made its use impracticable, if not impossible, such that a POSITA would have had no reasonable expectation of success in combining Rabu with Curry at the time of the invention. *See supra* section IV.D.2. Additionally, Katayama’s stark differences from both Curry and Rabu would not have led a POSITA to combine Katayama with Curry and Rabu, let alone provided any further expectation of success for implementing a *mobile telecommunications device* for logging driving information. *See supra* section IV.D.3. Lacking any reasonable expectation of success in making that proposed combination of Curry, Rabu, and Katayama, no claim may be found obvious over that combination. AT-2001, ¶125.

Petitioner states that “a POSITA would have found obvious enhancement of the Curry-Rabu phone through implementation both of Katayama’s teachings on partitioning local memory...,and Katayama’s related teachings on data handling....” Pet. 22. Even if a POSITA had stumbled upon Katayama’s device

that is not a mobile phone, that requires vehicle sensors for its operation, and that requires electrical connection to the vehicle (*see supra* section IV.D.3), a POSITA would have recognized that attempting such a combination at the time of the invention would have been time consuming, required significant resources with a fairly low probability of success, and created significant technical hurdles, the solutions to which are nowhere evidenced in Curry, Rabu, or Katayama. AT-2001, ¶¶126.

In attempting such a combination, a first issue would be to address what “success” would mean in the context of a combined Curry-Rabu-Katayama system. Curry discloses a very specific method for preventing cell phone use while driving, and a POSITA would have understood that the method must be able to provide an accurate assessment of the activity modes of walking, running, driving, and stationary. USAA-1005, 17:1-23. Curry discloses, and a POSITA would have understood, that selecting the wrong activity mode “can result in incorrect disruption of cell phone service which can lead to unpleasant user experiences and further limit system deployment.” *Id.*, 10:32-11:2. Thus, a POSITA would have understood that the cost of choosing the incorrect activity mode would be significant, and the more modes one introduced, the more opportunities there would have been for failure. AT-2001, ¶127.

The most problematic issue in the Rabu process is step 802/902/1002 of “compar[ing] determined frequency spectra to one or more frequency spectra.” Rabu states that “[i]n general, different types of motion have different acceleration characteristics, e.g., high frequency vibration of a car, low frequency vibration when handheld. A frequency spectrum for each type of motion can be generated using [these] acceleration characteristics.” USAA-1013, 7:32-37. While this may be true in theory, Curry’s activity mode selection needs to occur in very specific situations, and there is far too little data provided in Rabu that would have given a POSITA a reasonable expectation that this technique would have worked across the range of conditions typically encountered by a phone being held or in a moving vehicle. AT-2001, ¶128.

In particular, 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.” USAA-1013, 7:26-28. However, Curry’s observation of distinct frequency spectrums appears to be based on a single sample “measured taking a seat to a passenger” and with the sensor attached “by the belt on a subject’s waist.” For a POSITA to have achieved success incorporating Rabu’s teachings into Curry’s system and avoiding “unpleasant user experiences,” the characterization of the “driving spectra” would

have been required to be precisely quantified and evaluated across many different factors, including:

- **Location of the Phone** – Whether the phone is attached to a belt, loose in a shirt pocket, on a seat or the vehicle's dash, or on some sort of mounting device.
- **Mounting Type** – Whether the phone is attached to a stalk that would introduce additional spectral features, sitting on a flat surface (dash, console) that would provide vertical but not horizontal stability, on a car seat, on the steering wheel (introducing rotational motions), in a cup holder, in a mount, or something relatively flexible like an air vent. Each of these mountings would amplify certain frequencies while dissipating others.
- **Vehicle Type** – A luxury car with a large wheelbase has a very different spectrum than a sports car, a small car, or a truck. Tires and wheels are also important, including allowing for winter or summer tires, and the presence of tire chains would also need to be considered.

- **Maintenance Status of Vehicle** – Inadequate, defective or worn shock absorbers or other suspension components will change spectral elements, as will varying tire pressure.
- **Vehicle Load** – Additional weight can modify the motion spectra of a vehicle, while trailers are especially apt to modify motion spectra.
- **Road Surface** – A car on a smooth road will produce a very different spectra from a car on a road with cracks and potholes or a car travelling on a dirt road.

AT-2001, ¶¶129-130.

Each of these characteristics (and ideally all combinations) would have needed to be considered in order to successfully implement the system of Rabu. This would, at best, have taken a great deal of experimentation and, in the opinion of Wilson, at least some of these situations would have been very difficult to accommodate, requiring further modifications to Curry. AT-2001, ¶131.

Petitioner has failed to recognize such significant technical challenges presented by Rabu, and particularly the challenges that would have faced a POSITA in attempting the proposed combination. Weighed against this evidence, the proposed combination would have, in fact, suggest to a POSITA a very *low*

likelihood of success of even combining Curry with Rabu, let alone with Katayama.

2. The Combination Cannot be Expected to Perform as a Mobile Telecommunications Device According to the Claims

Katayama's characteristics and features are in direct conflict with the requirements of the '369 patent. Katayama's "black-box-like" hardware configuration for data logging is the very type of hardware configuration that the '369 patent was invented to *not* have to use. USAA-1001 at 2:15-26. The '369 patent reviews data logging devices such as Katayama's driving recorder: "Some of these data logging devices can be integrated with the car data network, and so may take inputs from sensors integrated with the vehicle. However, these can be difficult and costly to install." *Id.* at 1:49-53. The '369 patent mitigates Katayama's vehicle sensor integration complexity because the '369 patent derives driving information "without data from the vehicle sensors." *Id.* at 31:63-64. This requirement of the '369 patent would have clearly placed Katayama outside of the desired reach of a POSITA at least because (1) Katayama did not contemplate integration with the vehicle sensors as requiring mitigation; and (2) Katayama is a hardware-based configuration, not a mobile software-defined communications platform such as a smart phone, as demonstrated below. AT-2001, ¶¶143-144.

As to (1), Katayama's integration with a vehicle's sensors would have been considered by a POSITA to be critical to Katayama's identification and categorization/classification of an accident or risk incident. *See, e.g.*, USAA-1024, [0012]-[0015], FIGs. 4-6. Katayama clearly discloses that the "situation data" it records and classifies "is vehicle speed data transmitted from a vehicle speed sensor...of the motor vehicle V, door open/close data..., or brake data..., and the data is received through a connector CN. Furthermore, the driving recorder 1 is generally activated by the electric power supplied from a vehicle battery...through the connector CN." *Id.* at [0038]-[0039]. *See also id.*, [0063] (second embodiment). Clearly, Katayama's driving recorder is not meant to be a mobile device that is removably attached or affixed to a vehicle for purposes of data logging without using vehicle sensors, as is required by the claims of the '369 patent. AT-2001, ¶¶145-146.

Further as to (1), Katayama states that "to judge whether or not the event is an accident...more accurately it is preferable that the situation data further includes at least one of or all of speed data indicating speed of the vehicle, brake data indicating whether a brake is applied to the vehicle or not, door open/close data indicating whether a door is open or closed and main electric power supply state data indicating whether or not electric power is supplied from a power supply at a side of the vehicle." USAA-1024, [0020]. Katayama simply did not contemplate

the efficacy of running its driving recorder without vehicle sensor data. *See generally id.* Further, a POSITA would have understood that Katayama did not contemplate *not* using this vehicle sensor data *at all*. AT-2001, ¶147.

Katayama discloses using its vehicle sensors “to select and to store the situation data of the vehicle before and after the selection signal is generated in case that the data administration section determines the signal is generated. The selection signal generated by operating the vehicle by the driver after the occurrence of an accident is a signal generated by an action such as opening or closing a door, yanking an emergency brake or turning off an ignition switch.” *Id.*, [0021]. Thus, Katayama even discloses needing vehicle sensors to kick off selection and storage of data in its data recorder. *Id.*, [0021]. Further, Katayama’s vehicle sensors are used to classify accidents, e.g., as minor. *Id.*, [0022]-[0024]; AT-2001, ¶148.

As to (2), a POSITA would not have looked to Katayama for combination with Curry and Rabu additionally because Katayama’s hardware was not configured for mobile telecommunications. *See id.*, [0042]. Katayama’s “hardware for wireless LAN” depends on the vehicle being within a short distance of a “vehicle allocating computer” (e.g., at a central server) to collect the vehicle’s recorded data. This is very different from the mobile device of the claims (or

Curry, for that matter) that can directly communicate data to a remote server through telecommunications without relying on a wireless LAN. AT-2001, ¶149.

Further as to (2), Katayama discloses a removable CompactFlash (CF) memory card to store situation data. *Id.*, [0044]. Although Katayama suggests that its removable CF memory card is optional (*id.*), such a storage configuration is akin to a vehicle black box and unknown for an iPhone, such as the 3G iPhone disclosed by Curry. *See* USAA-1005, 2:25-27. An iPhone cannot be opened by a user to physically access or remove its solid-state memory device, and there is no (and never has been any) user-removable storage card on any version of an iPhone. AT-2001, ¶150.

Regardless of the optional status of Katayama's CF memory card, Petitioner has not explained how a POSITA would or could have configured the internal storage in Curry's iPhone to have the specific configuration disclosed in Katayama. *See* Pet. 23-25; USAA-1024, FIG. 5 (having temporary data storage section 802, judgment criterion parameter storage section 805, and situation data storage section 803 managed by data administration section 804); *see also* USAA-1024, [0045]-[0046]). AT-2001, ¶151.

Petitioner asserts that "configuring the Curry-Rabu phone to leverage Katayama's teachings would have required only routine knowledge of programming and common electronic components." Pet. 27 (citing USAA-1003,

¶119). Further, Petitioner asserts that “the changes would have amounted to nothing more than the use of known techniques to improve similar devices,” and “the elements of the resulting combination would each perform functions they had been known to perform prior to the combination.” Pet. 27 (USAA-1003, ¶¶ 119-120). Yet, the disclosed hardware of the Curry and Katayama devices are far from similar, and the functions each performed prior to the purported combination, having different hardware and software configurations, could not be expected to perform similarly in a Curry-Rabu-Katayama phone. Neither Petitioner nor Michalson explains the differences or what activities would need to be performed to make the different types of hardware work together, or why those differences and activities would require only “routine knowledge of programming and common electronic components.” AT-2001, ¶¶152-153.

As such, Petitioner’s summary conclusions of an alleged reasonable expectation of success in cobbling together a Curry-Rabu-Katayama “mobile telecommunications device,” despite various alleged “enhancements” (*see, e.g.*, Pet. 25-26), must be disregarded.

3. Petitioner's Rationale to Combine Curry, Rabu, and Katayama Is Based Entirely On Impermissible Hindsight, Using the '369 Patent as a Roadmap

Petitioner's reasons for combining Curry, Rabu, and Katayama are not supported by sufficient evidence, and Petitioner instead impermissibly relies on hindsight for its analysis. The Federal Circuit has observed that “‘the prejudice of hindsight bias’ often overlooks that the ‘genius of invention is often a combination of known elements which in hindsight seems preordained.’” *Polaris Industries, Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1068 (Fed. Cir. 2018). As such, the invention must be considered “as a whole.” *Princeton Biochemicals, Inc. v. Beckman Coulter, Inc.*, 411 F.3d 1332, 1337 (Fed. Cir. 2005).

To avoid hindsight bias, the obviousness inquiry is not limited to whether the elements of the '369 patent's mobile device were known as disparate puzzle pieces; nor is the inquiry complete with whether a POSITA would have understood Curry in combination with Rabu to teach the '369 patent's logging of vehicle behavior. Rather, Petitioner must provide, *with particularity*, rationale to combine the teachings of the cited art, *i.e.*, “whether the relevant skilled artisan had a motivation to combine pieces of prior art in the way eventually claimed in the patent at issue.” *Intercontinental Great Brands LLC v. Kellogg N. Am.*, 869 F.3d 1336, 1343 (Fed. Cir. 2017). Petitioner does not provide such rationale.

Petitioner's rationale to combine Curry, Rabu, and Katayama relies on using the '369 patent as a roadmap for reconstructing the claims based on hindsight, despite indications that the combination is fraught with problems. Petitioner asserts reasons as to why a POSITA would have been motivated to modify Curry that appear to be nothing more than a desire to provide a mobile device that meets the elements claimed in the '369 patent. However, in laying out an obviousness analysis, it is "impermissible to use the claimed invention as an instruction manual or 'template' to piece together the teachings of the prior art so that the claimed invention is rendered obvious." *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992).

The '369 patent relies on the availability of continuous sensor data to ensure that data regarding how a vehicle is being driven is captured. *See* USAA-1001, 16:15-20; 16:48—18:32. A POSITA would not have been motivated to look to Curry to arrive at the '369 patent's claims because Curry intentionally limits the use of sensor data until a phone call is received or made. *See, e.g.*, USAA-1005, 3:2-4:28; 16:7-13; FIG. 4; *see also id.*, 14:28—15:7 Although Petitioner proffers certain explanations for rationale to combine Curry and Rabu, in no case does either reference support such combination. For example, considering the cited art as a whole, and without the benefit of hindsight, a POSITA would never have picked up Rabu in the first place, let alone picked out sections of Rabu for its teaching of determining a frequency spectrum of a phone, comparing that

frequency spectrum to a database of frequency spectra to determine motion status and mode of operation, and further using such data to distinguish whether the device is docked, on a surface, being handled by a person, or located in a moving vehicle. AT-2001, ¶134.

Neither Curry nor the '369 patent would benefit from Rabu's unreliable, processor-intensive frequency analysis, as previously discussed. *See* USAA-1013, 5:61—6:21. Further, nothing in Curry suggests that using Rabu's frequency analysis to determine holder status and holder motion status would be better than using GPS and accelerometer data at the time of a phone call such that it would make technical sense to put Curry and Rabu together to arrive at the '369 Patent. Thus, there is insufficient explanation in the Petition or Michalson's declaration as to why a POSITA would have combined the teachings of Curry and Rabu in the manner Petitioner proposes. AT-2001, ¶¶135-138.

Adding Katayama to the combination of Cury and Rabu to fill in Petitioner's gaps for claim elements [1.10]-[1.13] is further evidence that Petitioner is using the cited art merely as a gap filling exercise without fully considering the ramifications of such a combination. Despite Katayama's device appearing "mobile," Petitioner has not considered nor explained why it would look to a vehicle-connected device that is not a mobile telecommunications device, and that requires vehicle sensors, to complete the gaps of claims that require that a mobile telecommunications

device derive and log driving information “without data from the vehicle sensors.” USAA-1001, 31:42-64. Regardless of what specific gap Petitioner is filling, a POSITA would not have looked to such a device as Katayama’s. *See supra* section IV.D.3.

Petitioner has not provided evidence for why it thinks the Curry-Rabu-Katayama combination would technically work to partition local memory on a mobile telecommunications device according to the claims, including how it would resolve Petitioner’s purported problem of Curry-Rabu phone’s “limited capacity” or how it would port Katayama’s memory configuration and categorical data handling functionality onto a phone. *See* Pet. 22-27. Petitioner asserts that the combination of Katayama with Curry-Rabu “would have amounted to nothing more than the use of known techniques to improve similar devices,” yet the devices of Katayama and Curry-Rabu are not similar. Pet. 27. That the devices are simply “equipped with a sensor set and a form of electronic storage” is not enough evidence that such a combination would be “routine.” *See* Pet. 27; AT-2001, ¶¶151-153. KSR requires more. *KSR v. Teleflex*, 550 U.S. 398, 417 (2007).

C. Claims 2-4, 6, 9-12, and 16-24 Are Patentable Over the Combination of Curry-Rabu-Katayama

Claims 2-4, 6, 9-12, and 16-24 ultimately depend from Claim 1 and incorporate the same limitations therein. Thus, for the same reasons as are set forth above for Claim 1, Claims 2-4, 6, 9-12, and 16-24 are patentable over the proposed combination.

D. Claim 26 Is Patentable Over the Combination of Curry-Rabu-Katayama

Claim 26 recites substantially similar features as for Claim 1. Thus, for the same reasons as are set forth above for Claim 1, Claim 26 is patentable over the proposed combination.

VI. GROUND 1B: CLAIM 5 IS PATENTABLE OVER THE COMBINATION OF CURRY, RABU, KATAYAMA, AND TAMIR

Claim 5 ultimately depends from Claim 1 and incorporates the same limitations therein. Thus, for the same reasons as are set forth above, Claim 5 is patentable over the proposed combination. The addition of Tamir does not cure these shortcomings.

VII. GROUND 1C: CLAIMS 7, 8, AND 15 ARE PATENTABLE OVER THE COMBINATION OF CURRY, RABU, KATAYAMA, AND BALACHANDRAN

Claims 7, 8, and 15 ultimately depend from Claim 1 and incorporate the same limitations therein. Thus, for the same reasons as are set forth above, Claims

7, 8, and 15 are patentable over the proposed combination. The addition of Balachandran does not cure these shortcomings.

VIII. GROUND 1D: CLAIMS 13 AND 14 ARE PATENTABLE OVER THE COMBINATION OF CURRY, RABU, KATAYAMA, AND THOMPSON2010

Claims 13 and 14 ultimately depend from Claim 1 and incorporate the same limitations therein. Thus, for the same reasons as are set forth above, Claims 13 and 14 are patentable over the proposed combination. The addition of Thompson2010 does not cure the shortcomings of Curry-Rabu-Katayama.

Further, Thompson2010 presents several shortcomings that would have discouraged a POSITA from using it in the asserted combination. *See* USAA-1008, 8-9. Petitioner and Michalson acknowledge that “while Curry contemplates emergency scenarios (e.g., accidents) may occur, it does not disclose specific embodiments focused on detecting an emergency or actions performed by phone 106 in response to a detected emergency.” Pet. 75 (citing USAA-1005, 3:16-28, 9:16-26, cl. 9.); USAA-1003, ¶233. Petitioner thus asserts that a POSITA would have modified Curry with Thompson2010’s accident detection technique to “advance[] Curry’s overall motivation to reduce casualties resulting from vehicular accidents.” Pet. 76. However, Thompson2010 is a rudimentary experimental study limited to significant crashes that filters out and/or ignores certain sensor data that the ’369 patent would depend on for event detection. AT-2001, ¶¶163-164.

First, Thompson2010's system is enabled only when its cell phone device is plugged into a vehicle power source because "GPS receivers consume a substantial amount of power and sampling them at the rate necessary to accurately determine speed would...limit the lifetime of the device...." USAA-1008, 8. Thompson2010 captures data related to an accident, but Thompson2010 does not collect data related to acceptable or unacceptable driving behaviors or patterns that do not result in an accident because Thompson2010 mitigates "false positives" by filtering out what could otherwise be useful data. *See id.*, 4 (section 2.2); AT-2001, ¶165.

Thus, a POSITA would have immediately recognized significant problems with Thompson2010. For example, Thompson states that "[t]he required acceleration to trigger airbag deployment is 60G's [10, 11]." USAA-1008, 9. A POSITA would have understood that 60G acceleration corresponds to a very severe crash with almost certain injuries and likely fatalities. In addition to its exaggeration of trigger levels, Thompson2010 determined that its "acceleration filter prevents drops...from triggering accident notifications." USAA-1008, 8. Thompson2010's acceleration filter thus is set to ignore accelerometer data below 4G to prevent false positives (such as might be experienced from an inadvertent phone drop). *Id.* However, vehicle airbags may deploy at levels of acceleration

around 4G, so a POSITA would have found it essential to *not* filter out data around this critical level. AT-2001, ¶¶166-167.

In limiting its study to such experimental levels, Thompson2010 itself recognized that “[i]t may not be possible to detect all accidents with smartphones....More work is needed to enhance the filtering mechanisms to account for these types of collisions.” USAA-1008, 12-13. Although the ’369 patent recognized the same potential issue (USAA-1001, 19:65—20:4), the ’369 patent went far further to solve challenges posed by Thompson2010. Given Thompson2010’s many shortcomings, Thompson2010 would not have provided motivation to combine it with Curry to arrive at the claims of the ’369 patent. As defined by the ’369 specification, although a crash is an example, predetermined events of significance include other events besides a crash (some more difficult to detect). AT-2001, ¶168; *see also* USAA-1001, 5:12—6:10.

Thompson2010 also makes general observations regarding the accelerations the phone may experience: It may be “stationary relative to the vehicle during the collision” or “carried in some form of pocket [and would] experience the same forces as vehicle occupants.” USAA-1008, 7. A POSITA would have understood that the accelerations experienced in a breast pocket versus a pants pocket versus sitting on a seat versus mounted to the vehicle would have been different and would have needed to be accounted for, which Thompson2010 does not do. Nor is

it a proper assumption by Michalson that the cell phones of the cited art will reliably capture “accelerations experienced by the driver.” *See* USAA-1003, ¶82. AT-2001, ¶169.

The limitations of Thompson2010’s acceleration measurements would not provide the range needed by the ’369 patent for detecting accidents by the mobile telecommunications device. Thus, a POSITA thus likely would not have looked to combine Thompson2010 with Curry-Rabu-Katayama to arrive at the subject matter of claims 13 and 14. AT-2001, ¶170.

IX. GROUND 1E: CLAIM 25 IS PATENTABLE OVER THE COMBINATION OF CURRY, RABU, KATAYAMA, AND WILLIS

Claim 25 ultimately depends from Claim 1 and incorporates the same limitations therein. Thus, for the same reasons as are set forth above, Claim 25 is patentable over the proposed combination. The addition of Willis does not cure these shortcomings.

X. GROUND 1F: CLAIM 27 IS PATENTABLE OVER THE COMBINATION OF CURRY, RABU, KATAYAMA, AND BERKOBIN

Claim 27 recites substantially similar features as for Claim 1 except for the addition of claim element [27.8]. Claim 26 is patentable over the proposed combination for the same reasons as are set forth above for those features of Claim 1 that are also recited by Claim 26. Additionally, Claim 26 is patentable with

respect to claim element [27.8] because Berkobin does not cure the shortcomings of Curry-Rabu-Katayama and Berkobin introduces its own shortcomings regarding claim element [27.8]. AT-2001, ¶172.

Berkobin discloses techniques “for determining driver behavior based on vehicle operating parameters, adjusting insurance premiums, and preventing fraudulent manipulation.” USAA-1010, Abstract. Berkobin, as another “black-box-like” device integrated with a vehicle’s sensors, suffers from similar shortcomings as Katayama. *See id.*, [0021]. Berkobin relies on vehicle-embedded GPS and a cellular transceiver for vehicle performance metrics. *Id.* Berkobin’s apparatus “can interface and monitor various vehicle systems and sensors to determine vehicle systems” using standard “OBD (On Board Diagnostics) port, OBD-II port, CAN (Controller Area Network) port, and the like.” *Id.*, [0038]. Although Berkobin discloses interfacing with a PCS/cell phone/smartphone for communications and monitoring phone usage, Berkobin does not contemplate using a phone for performing the features of its apparatus. *See, e.g.*, [0037], [0044], [0066], [0077]. Berkobin thus does not disclose or even contemplate any processing on a mobile phone as claimed. AT-2001, ¶¶173-174.

Berkobin only generically suggests that its non-phone apparatus “can employ Artificial Intelligence techniques such as [a number of generic examples including a neural network].” *See*, USAA-1010, [0031]. Berkobin does not indicate

how such AI functionality might be integrated into its apparatus for any purpose, much less for the purposes identified in Claim 27. AT-2001, ¶175.

Patent Owner has been clear throughout this response that processing on the mobile device *as claimed* is not disclosed, taught, suggested, or rendered obvious by the cited references, alone or in combination; the addition of Berkobin to the combination similarly fails. That Petitioner is asserting “[t]echniques for artificial intelligence to evaluate driver information known by the Critical Date” (Pet. 80) is a moot point because Petitioner has not sufficiently demonstrated that any such techniques are performed by a mobile device using its own processing functionality and sensors. AT-2001, ¶176.

For example, Petitioner’s statement that “Curry describes evaluating measured sensor data to identify unsafe driving behaviors” refers to Curry’s server, not Curry’s phone, regarding driving behaviors other than receiving or placing a phone call during driving. *Id.*, 81 (citing USAA-1005, 7:5-22). There is a big difference between saying a “POSITA would have therefore been motivated to employ artificial intelligence to identify unsafe driving behaviors” in a generic conclusory statement (*id.*, 80-81) and actually demonstrating sufficient evidence of the application of AI on a mobile device for doing that specific activity. Such conclusory statements, imagined in hindsight, are not enough. Thus, the Curry-Rabu-Katayama-Berkobin combination does not render Claim 27 obvious for the

above reasons and additionally for the same reasons Claim 1 is non-obvious. AT-2001, ¶177.

XI. CONCLUSION

USAA's Petition fails as Petitioner cannot show, and has not shown, that the claims of the '369 patent are obvious in light of the cited references. Accordingly, Patent Owner Auto Telematics Ltd. respectfully requests that the Board deny USAA's Petition and find all of the challenged claims patentable.

January 30, 2024

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE WITH 37 C.F.R. § 42.24

Pursuant to 37 C.F.R. § 42.24, Patent Owner Auto Telematics Ltd., certifies that, based on the word count of the word processing application used to prepare this paper, the number of words in this Patent Owner Response is 13,714. This word count does not include the items that may be excluded from the count under 37 C.F.R. § 42.24(a) including the table of contents, table of authorities, list of exhibits and this certificate.

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), undersigned counsel certifies that on January 30, 2024, this paper – Patent Owner Auto Telematics Ltd.’s Response Pursuant to 37 C.F.R. §42.107 – was served via electronic mail upon the following counsel of record for Petitioner:

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