UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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UNITED SERVICES AUTOMOBILE ASSOCIATION,
*Petitioner*,

v.

AUTO TELEMATICS LTD.,
*Patent Owner*.

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

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

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| | EXHIBIT LIST |
|---|---|
| AT-2001 | Declaration of Christopher K. Wilson |
| AT-2002 | Ogawa, A. et al., Identification of Human Activity Modes with Wearable Sensors for Autonomous Human Positioning System, 22nd Asian Conference on Remote Sensing, Centre for Remote Imaging, National University of Singapore, Nov. 5-9, Singapore (2001) |
| AT-2003 | 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) |
| AT-2004 | List of References Cited by Applicant and Considered by Examiner, considered July 17, 2013 and posted July 23, 2013, from Information Disclosure Statement (IDS), filed December 15, 2009, in USPTO file wrapper of Patent Application 12/638,454 |
| AT-2005 | Authentication Declaration of Mary Longchamp for AT-2003 |
| AT-2006 | Authentication Declaration of Christopher K. Wilson for AT-2003 |
| AT-2007 | Excerpts from the Prosecution History of U.S. Pat. No. 9,633,487 B2 ("the '487 Patent") |

Patent Owner Auto Telematics Ltd. ("Patent Owner") submits this Response to the Petition of United Services Automobile Association ("Petitioner") for *Inter Partes* Review of Claims 1, 3-4 and 6-7 of U.S. Patent No. 9,311,271 ("the '271 patent").

## I. INTRODUCTION

The '271 patent describes methods and systems for logging driving information associated with a vehicle when driven. The mobile device is arranged to determine 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. 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 '271 PATENT

### A. The Problem Addressed by the '271 Patent

Before the invention of the '271 Patent, data logging devices for road vehicles, or "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, ¶¶ 35-37.

However, such black boxes were difficult and costly to install. Thus, mobile data logging devices for logging driving information having their own sensors that could be easily and inexpensively installed to vehicles and that could perform event detection and analysis during entire driving periods while managing data storage were not known in the art at the time of the invention. *Id.*, ¶38.

**B. The ’271 Patent’s Solution**

The ’271 patent is directed to logging driving information associated with vehicle behavior. 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 is configured to log driving information, process the driving information to detect a driving incident, and maintain a selection of the driving information related to the driving incident during a driving period. *Id.*, Abstract, 3:12-27, 4:42—5:12, 7:64—8:6. AT-2001, ¶39.

For example, location, speed, and acceleration sensor data of the vehicle associated with how the vehicle is driven can be captured from the mobile device’s sensors only. USAA-1001, 2:10-21. Driving information such as variation in velocity, speed of impact, pitch, yaw, roll, G-force, bearing/heading, and time elapsed can be derived from the sensor data. *Id.*, 10:28-35, 13:65—14:2, 15:40-45,

16:20-27, 19:9-13, 20:60—21:5, 25:31-35. The derived driving information can be processed using only the processing capabilities of the mobile device and analyzed to automatically detect and capture an event such as a crash in real time. *Id.*, 5:3-23, 7:12-15, 17:22-24, 18:50—19:28. Derived driving information related to that crash can be enhanced, persistently stored in the phone, and prevented from being overwritten for use by third parties. *Id.*, 4:55-58, 5:3—6:5, 6:60-65, 8:1-6, 16:35—17:7, 17:24-27, 17:59-65, 19:36-46. The mobile device can calculate a driving score associated with a driver with respect to the driving information over that driving period and update the driving score associated with additional driving periods. *Id.*, 6:1-27, 10:12-15, 11:65—12:9. AT-2001, ¶39.

"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." USAA-1001, 2:10-21. However, as black-box functionality is applied to a mobile device, storage concerns arise. The invention can limit the storage of data on the mobile device to a selection of important data while providing focused recording, on the mobile device, of data corresponding to detected events (e.g., "driving information"). *Id*., 2:5-9; 10:54—11:3. When a driving event is detected and

considered important, this data is determined from the sensor data and stored to long-term storage on the mobile device. *Id.,* 17:40-46; AT-2001, ¶¶40-42.

## III. PERSON OF ORDINARY SKILL IN THE ART

Auto Telematics ("AT") does not dispute Petitioner's proposed definition of a person of ordinary skill in the art ("POSITA"). AT's expert, Christopher K. Wilson ("Wilson"), nonetheless opines that a POSITA would *also* include individuals with a Bachelor of Science degree (B.S.) in other fields, including physics, and that educational experience becomes less relevant as the individual's experience in the telematics field increases. AT-2001, ¶¶10-11. Thus, Wilson opines that a POSITA would include individuals with a B.S. 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, in the context of the 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] Petitioner initially asserts

[1] In the parallel District Court proceeding involving the '271 patent (among others), Petitioner sought construction of several terms including "sensor set," "driving period," "driving information," and "driving score." As to each of these

that no express constructions are required in this proceeding." Pet. 3. Petitioner then argues that the term "driving period" "establishes just two 'driving period' attributes: (1) 'the mobile device is removably attached to the vehicle' and (2) 'the vehicle is in use.'" *Id.*, 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.* Such arguments were rejected by the Court in the parallel District Court proceeding and should likewise be rejected here.

Petitioner's characterization of the start of a driving period as a "monitoring period" that starts at any time with respect to the onset of driving (*id.*) is simply inaccurate. Nowhere in the '271 patent is the term "monitoring period" used. *See generally* USAA-1001. Instead, the claims require that the mobile device "determine, based on inputs received by the user interface and sensor data from the 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.*, Claim 1 (emphasis added). The claim language accurately captures the scope of the invention, and

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terms, the Court agreed with Patent Owner that no construction was required and that the plain and ordinary meaning of each term applied.

there is no need for a different construction incorporating Petitioner's manufactured limitations for "driving period." AT-2001, ¶49.

Based on a plain reading of the language of Claim 1, "...during which the mobile device is removably attached to the vehicle and the vehicle is in use" does not itself define a "driving period." Rather, this language simply provides additional limitations of the invention. AT-2001, ¶53. A "driving period" is the period in which the vehicle is being driven. Given the purpose of the invention (to determine insurance premiums, modify driving behavior, or determine a cause of an event) (USAA-1001, 1:22-25), the driving period must be the whole period in which the vehicle is being driven (absent short periods related to getting up to speed, backing out of driveway, leaving a particular geo-fence, etc.). AT-2001, ¶54. The purpose of the invention would not be met if the "driving period" could start at the beginning, middle or end of the period in which the vehicle is being driven, as Petitioner argues. Pet. 3. Accidents and poor driving could be missed. In other words, a monitoring period that starts at any point and monitors a portion of a driving period for some random period of time, untethered from the vehicle actually being driven, is not a "driving period" as claimed. AT-2001, ¶55.

**A. Claim Language**

The ’271 patent has four independent claims. Claim 1 provides:

> 1. A mobile telecommunications device configured to log driving information associated with a vehicle, the mobile 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 device configured to:
>
> determine, based on inputs received by the user interface and sensor data from the 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;
>
> process the sensor data from the sensor set during the driving period to derive driving information associated with how the vehicle is driven;
>
> store a selection of the driving information to memory, wherein the driving information is derived without data from vehicle sensors; and
>
> wherein the mobile communications device is controlled by a downloaded application to control

> the mobile device to register the start of a the driving period in response to an initialization input generated automatically in response to the sensor data having predetermined values, wherein the initialization input is generated in response to sensor data reflecting a detected speed above a predetermined threshold.

USAA-1001 at 31:29-56. Claim 4 is substantially similar, replacing the final paragraph with:

> wherein the mobile communications device is controlled by a downloaded application to control the mobile device to process the sensor data from the sensor set during a plurality of driving periods to derive driving information associated with how the vehicle is driven during the driving periods, the sensor data being processed during a first set of driving periods defining a benchmark against which sensor data is compared during subsequent sets of driving periods.

*Id.* at 32:1-29.

Claims 1 and 4 require that the mobile device be configured to "determine, based on inputs received by the user interface and sensor data from the sensor set, ***a start of a driving period***." *Id.,* 31:39-42, 32:11-13 (emphasis added). Critically,

the mobile device determines the start of a driving period to initialize its logging functionality on the mobile device. These 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.,* 31:43-45, 32:15-17 (emphasis added).

The mobile device then 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.*, 18:49-54, 19:54-60; AT-2001, ¶¶50-52. Driving information is distinct from raw sensor data because it is derived from raw sensor data and is transformed by the phone for further analysis associated with how the vehicle is driven. *See supra* Section II.B. AT-2001, ¶56.

Claim 6, which is substantially similar to Claim 7, recites:

> 6. A data-logging system for logging driving information received from a remote mobile telecommunications device, the data-logging system comprising a processor and memory, the data logging system comprising:
>
> a database for storing a plurality of accounts, each account having a unique identifier and the database being arranged to store driving information associated with at least one of a vehicle and a driver;

a communications interface arranged to communicate with the remote mobile telecommunications device, and receive therefrom:

a unique identifier for association of the remote mobile telecommunications device with a corresponding one of the plurality of accounts;

driving information to be logged to that corresponding account, the driving information derived based on inputs received by a user interface of the remote mobile telecommunications device and sensor data from a sensor set of the remote mobile telecommunications device, the driving information derived without data from vehicle sensors; and

wherein the driving information comprises at least one of a driving score and sensor data captured and processed by the remote mobile telecommunications device during a driving period during which the remote mobile telecommunications device is removably attached to the vehicle being driven by the driver, the data logging system being further arranged to process the driving information logged to a corresponding account to generate a driving score used to determine a risk profile for at least one of the vehicle and driver.

*Id.*, 32:40—33:4. Claim 7 adds:

> wherein the driving score is used to define an insurance premium associated with the account and the data logging system is further arranged to communicate to the remote mobile telecommunication device an insurance offer generated in response to the driving information received from the remote mobile telecommunications device.

*Id.*, 33:5—34:21.

**B. The Specification Supports Patentability**

Claims must be read in light of the specification. Claims "do not have meaning removed from the context from which they arose." *Phillips v. AHW Corp.*, 415 F.3d at 1316.

According to the specification, at the time of the invention, automotive black boxes integrated with vehicle sensors were prohibitively expensive and difficult to install. USAA-1001, 1:44-53. The inventor realized that use of a mobile device for automotive black box functionality would provide a convenient and inexpensive alternative for efficiently capturing significant driving events while also providing accessible data for driver assessment and insurance rate setting. *Id.,* 2:10-46, 13:15-33. AT-2001, ¶¶57-58.

"[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, 2:51-56. Thus, the invention was ahead of its time. AT-2001, ¶59.

The inventor recognized additional concerns. 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, 3:18-24. 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 device "store[s] only selected driving information for…logging how the vehicle is driven during a driving period." *Id.*, 4:42-51. AT-2001, ¶¶60-62.

The specification defines sensor data and driving information as two distinct things: "Driving information" is "any data which may be derived from raw sensor data." USAA-1001, 16:23-27. The specification provides various examples of derived driving information. *See supra* Section II.B. The specification also refers to "sensor data *and* driving information" separately. *See*, *e.g.*, USAA-1001, 16:34-36, 18:57-60. AT-2001, ¶¶63-65.

The mobile device processor provides a large suite of black-box processing features, with additional features enabled by the technology of the mobile device. *See, e.g.,* USAA-1001, FIG. 3; the processor executes downloaded application (13:36-42); forwards driving incident data to insurance server and/or emergency services (13:43—14:19); determines start of driving period (18:30-42); continuously analyzes sensor data (17:22-24, 18:49-54); determines driving incident has occurred (16:34-36, 18:55-57, 18:55—19:28); performs benchmarking (22:46-67); pairs mobile device with driver and/or vehicle (10:7-12); monitors driving performance and generates user profile (13:24-27); generates driving score (10:13-16); and displays/plays data/video feedback (10:28-35). AT-2001, ¶66.

Like a black box, the mobile device includes an event detector for detecting occurrence of a "predetermined event of significance," such as a "serious accident" or "serious impact, and overturn[]." USAA-1001, 5:3-29, 5:53-59. However, the specification does not define, nor did the inventor intend, the predetermined event of significance to be a phone call. Handling phone calls is a separate function from detecting predetermined events of significance. *See id.*, 3:55—4:41. AT-2001, ¶¶69-70.

The mobile device can take a predetermined action in response to detecting a predetermined event. USAA-1001, 6:28-33. Such "predetermined action" can include one or more of "transmitting driving information and/or sensor data to a

remote system" to alert emergency services (*id.*, 6:33-42); "storing data captured at a higher…sampling rate than when an event is not detected" to prevent down-sampling and loss of detail or overwriting of event data (*id.*, 6:60-65); "providing feedback to a user to indicate that an event has been detected," such that a user can confirm the event (*id.*, 6:66—7:5), and "transferring data from…short term memory to long term memory" to prevent important event data from being overwritten (*id.*, 8:1-6). AT-2001, ¶¶67, 71.

Additionally, understanding the mobility of mobile devices and the differences in users, the inventor realized the opportunity to use a 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.*, 6:19-27. Because the mobile device is not integrated to a specific vehicle like a black box, accounting for variations in users, user devices, and the use and handling of such devices provides for more reliable data collection. *See id.*, 10:7-12. Such functionality also allows the mobile device to evaluate each driver individually and generate a user profile (*id.*, 13:24-30) and driving score (*id.,* 10:13-15) associated with the user. AT-2001, ¶72.

**C. Prosecution History Supports Patentability Then and Now**

"In addition to consulting the specification,…a court 'should also consider the patent's prosecution history…." *Phillips*, 415 F.3d at 1317. 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 office action in which Claim 1 was rejected under §102(b) over Plante, which prosecution history Petitioner has brought into evidence in related proceeding IPR2023-00518. *See* AT-2007, 8-15. Because the subject matter that was under examination of the '487 patent is identical to that claimed in the '271 patent, this prosecution history is relevant and probative here.

The claims of the '487 patent were found allowable for similar reasons that the claims remain allowable 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…, 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, like Curry, 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-1005[2]

Curry discloses "[a] system and method for preventing cell phone use while driving." USAA-1005, 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 114, 116 that a user is driving at a moment in time, use permission data (from remote data input device 102, purple) is required to be provided by a remote, centrally-managed server 104 (red) to permit or restrict use of the mobile phone 106 (blue) for calling or texting. *Id.,* 8:30—9:20; FIG. 1. Using this externally provided information, Curry's mobile phone performs

[2] *See* AT-2001, ¶¶74-85.

"dynamic call handling" based on estimated activity mode (e.g., standing, walking, or driving) at the time of the call. *Id.,* 4:16-24; FIG. 1.

Further, raw sensor data 114, 116 from the motion data cache 118 is uploaded (green) in raw form as "driving safety performance data" to the remote server 104 (red) for post-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 raw motion data to the server, Curry's mobile phone uses the raw data only to estimate context (e.g., standing, walking, driving) of mobile phone use using pre-set permissions from the server. *Id.,* 9:1-3, 5-11, 31-33. Curry's phone does not perform further processing, evaluation, statistical analysis, or scoring, especially as concerns how the vehicle is driven, or for detecting a driving incident. *See supra* Section IV.B. AT-2001, ¶¶75-76.

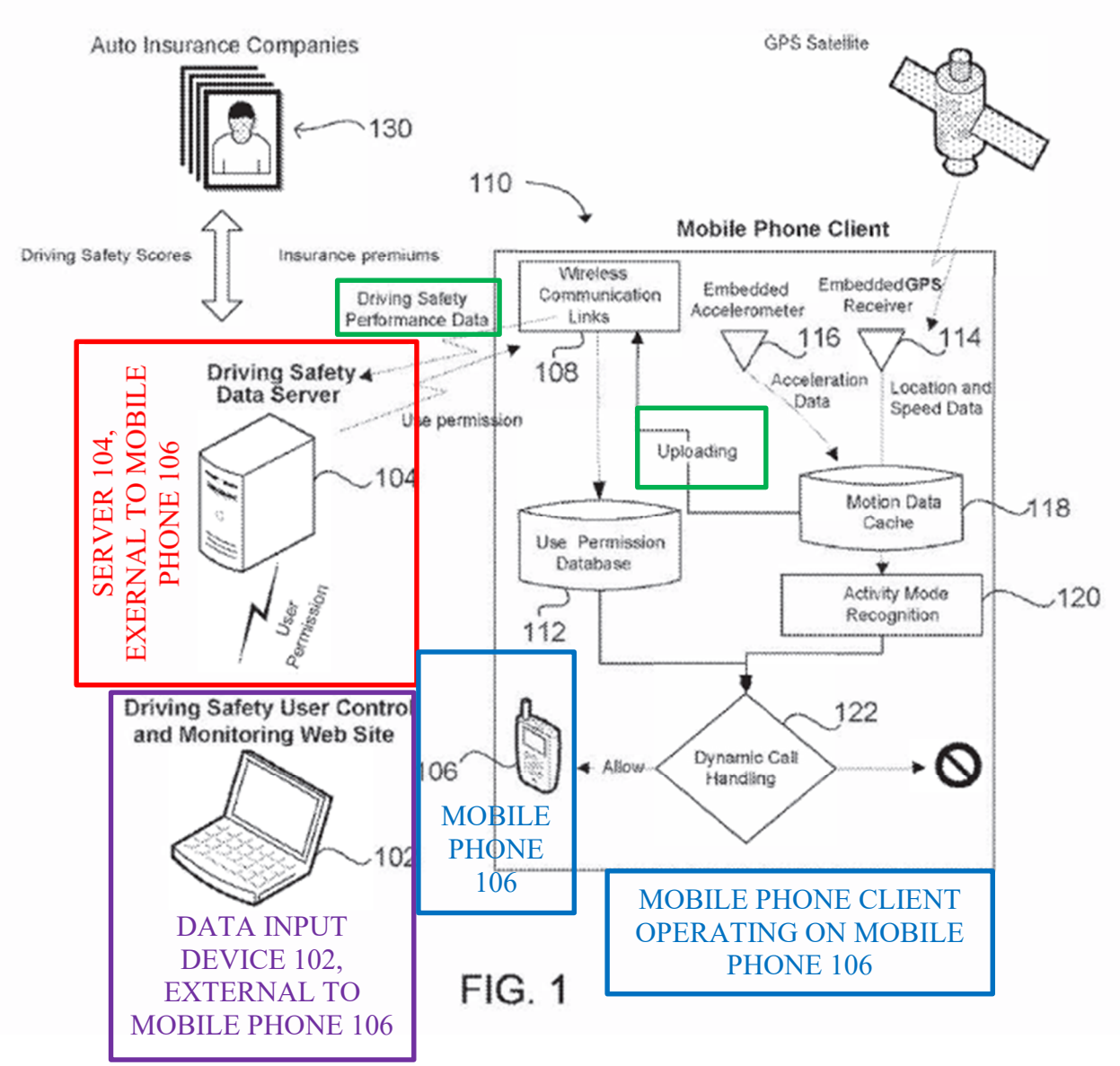



FIG. 1

USAA-1005, FIG. 1.

Curry's FIG. 2 and specification make clear that any processing, evaluation, statistical analysis, or scoring is performed at Curry's remote, centrally-managed server (red). *Id.,* FIG. 2, 3:24—4:6, 7:8-17, 8:5-18, 9:23—10:5, 11:3-18, 13:1-19, 14:17-26, 16:7-22, 17:24—18:3. AT-2001, ¶77.

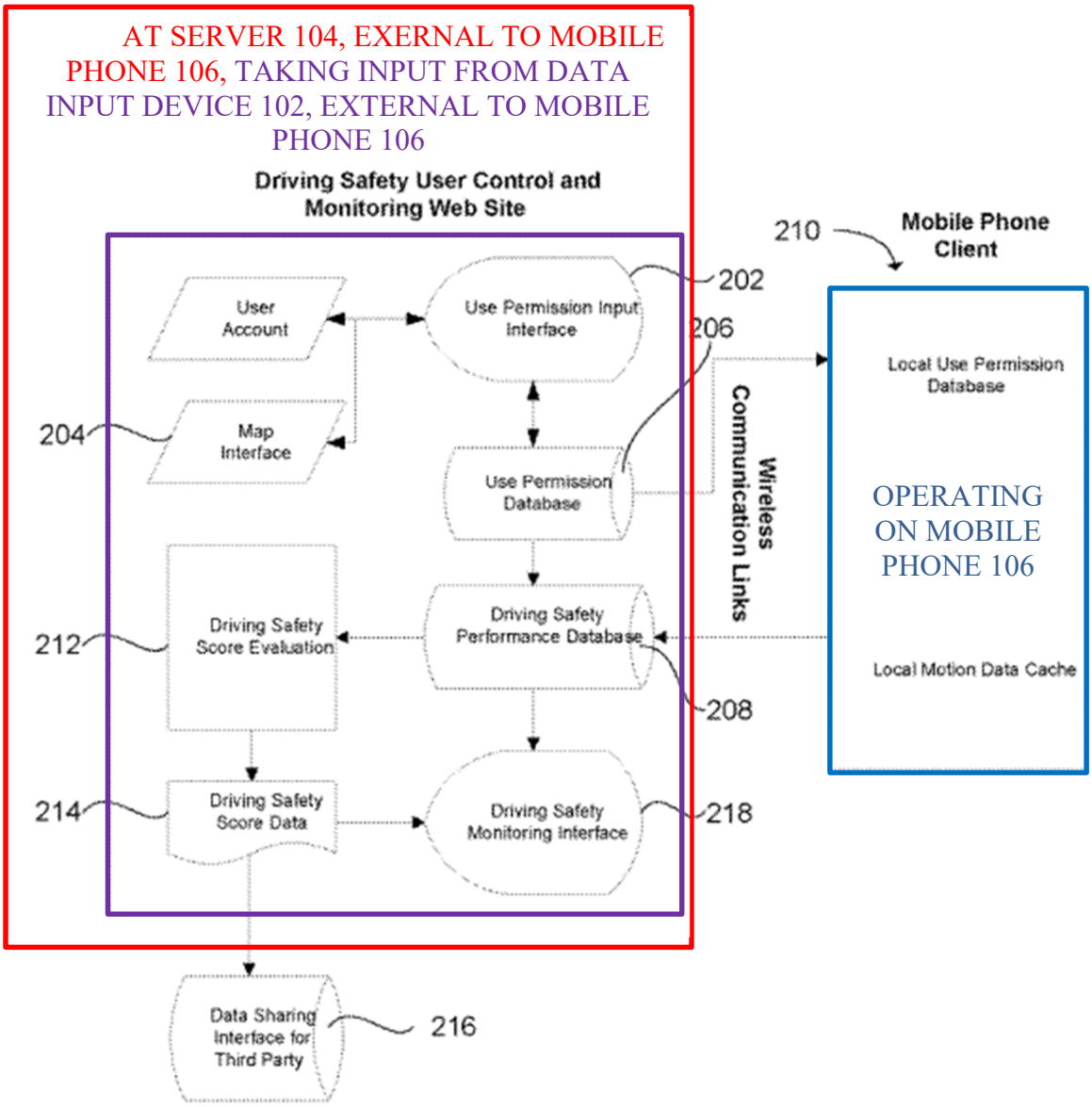



FIG. 2

USAA-1005, FIG. 2.

Curry's mobile phone, handling only raw motion data from sensors and pre-set user permission data from an external server, and determining only an estimate of whether (not how) a vehicle is driving, thus does not disclose, teach, or suggest

a mobile device (1) determining the start of a 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, ¶79.

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," which "estimates the context of mobile phone use…[and is] used to determine if the use of a mobile phone…violates the pre-set permission policies." *Id.*, 9:1-11. When Curry's user activity mode recognition program determines that the user is driving during a call, a call handling program controls phone operation using these policies. *Id.,* 9:13-20. AT-2001, ¶80.

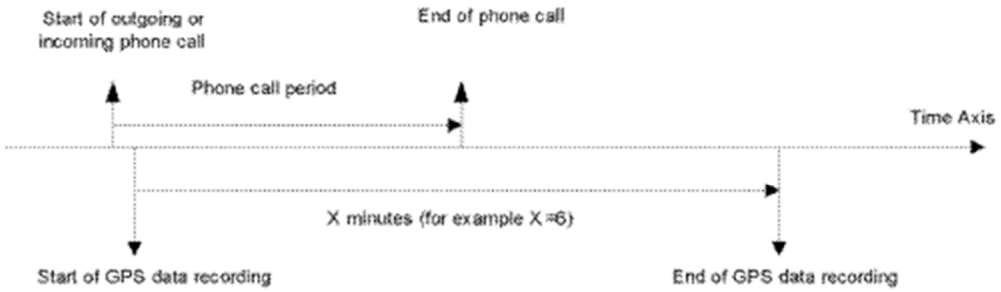



FIG. 4

USAA-1005, FIG. 4.

Because Curry addresses the problem and dangers associated with distracted driving caused by mobile phone usage, it need not (and does not) disclose monitoring how a vehicle is being driven during a driving period. 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* USAA-1005, 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., whether a phone associated with a user is driving, walking, or standing still (not *how* a vehicle is driving), and whether a user is permitted to operate the mobile phone in that context. *Id.,* 9:1-11; AT-2001, ¶¶83-85.

As applied to the ’271 patent, Curry suffers from similar shortcomings as were found for Plante in prosecution of the ’487 patent: (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 sensor data to derive 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 regarding the predetermined event; and (5) the phone call of Curry is not a predetermined event as required by the claims. AT-2001, ¶88.

**2. Rabu – Exhibit USAA-1013[3]**

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 any driving information, or storing a selection

[3] *See* AT-2001, ¶¶89-103.

of such driving information into the PMD's memory. 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 or stationary vehicle, being held by a moving person, or being held by a stationary person." *Id.*, 1:62-65; AT-2001, ¶¶89-90.

Rabu determines holder status by measuring orientation angle of the PMD. USAA-1013, 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. Rabu relies on frequency analysis to determine small movements of a PMD for distinguishing its mode of operation. *Id.,* 2:65-3:1; *compare* USAA-1001, 15:57-65. Rabu is not concerned with initializing a driving period nor with identifying a 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, ¶¶91-92.

Rabu's PMD does not process raw sensor data to derive 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 Curry's shortcomings regarding claim features for logging such driving

information. Rabu's "modes" purport to identify whether a PMD is in a vehicle and whether the vehicle is moving. *See* USAA-1013, 5:53—6:17. 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 to determine the start of a driving mode, or how a vehicle is being driven. AT-2001, ¶¶93-96, 98.

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. For example, Rabu merely takes snapshots of frequency spectra and compares them to limited stored frequency spectra. *Id.*, 9:35-45. Using only snapshots in time, Rabu does not determine an exact time when status changes, only that it had changed between two points in time. Thus, Rabu cannot, and does not, disclose determining a start to a mode, such as when a holder starts driving. AT-2001, ¶¶97-99.

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, ¶100.

**3. Katayama *et al.* – Exhibit USAA-1024[4]**

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]. A POSITA would not have looked to Katayama because it is prohibitively different from Curry: (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 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, ¶177. Katayama's device features are similarly incompatible with the use of Petitioner's Curry-Rabu phone. AT-2001, ¶178.

[4] *See* AT-2001, ¶¶177-179.

### 4. Callopy – Exhibit USAA-1045[5]

Callopy is directed to a system for insurance customization in which "dynamic insurance rate adjustments or incentive offer(s) to adopt dynamic insurance coverage are communicated to a vehicle operator…to allow the [operator] to adjust various parameters before an actual change to an insurance rate …." USAA-1045, Abstract. Cited portions of Callopy disclose an on-board, embedded vehicle "system for real-time monitoring of a driver to facilitate determination of insurance rate(s)" by an insurance provider. *Id.*, [00307]. *See also id.*, [00322], [00332]. Callopy relies on components external to a mobile device for its processing and storage related to monitoring driving. AT-2001, ¶¶104-106.

Callopy has key differences from the '271 patent, including that Callopy (1) does not depend on the sensors in a mobile device, (2) performs all analysis for insurance customization off the mobile device (at its insurance provider system), and (3) discloses a user interface that is external to the mobile device (at Callopy's remote monitoring system). AT-2001, ¶107.

[5] *See* AT-2001, ¶¶104-107.

## V. GROUND 1A: CLAIM 1 IS PATENTABLE OVER THE COMBINATION OF CURRY AND RABU

Under Ground 1A, Petitioner contends that claim 1 is unpatentable as obvious over the combination of Curry and Rabu. Pet. 6. A patent claim is unpatentable under §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." *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). 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 never shifts. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). Petitioner has not met this burden, failing to show that the combination of Curry and Rabu teaches or suggests all the elements of Claim 1.

### A. Claim 1 is Patentable Over the Combination of Curry and Rabu 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 and Rabu, alone or in combination, does/do not teach, suggest, or render obvious all elements of claim element [1.1]. Petitioner cites to a “mobile telecommunications device configured to log driving information associated with a vehicle” in several locations of Curry’s specification, but none of these citations discuss logging driving information as required by the claims. *See* Pet. 18-20. “Driving information” as required by the claims, and as discussed above, includes derived information “*associated with how the vehicle is driven*,” including information derived from sensor data (e.g., location, speed, acceleration, variation in velocity, speed of impact, pitch, yaw, roll, G-force, bearing/heading, time

[6] Patent Owner adopts the same numbering convention for each element of the contested claims as Petitioner.

elapsed). *See supra* Section II.B. This driving information may include detected driving events and anomalies, and images and audio of the detected driving events. *Id.*; *see also* USAA-1001, 17:3-40. AT-2001, ¶108.

The claimed driving information includes comprehensive data regarding how the vehicle is being driven that neither Curry nor Rabu disclose. Based on a plain reading of the specification and claims, a POSITA would have understood that the '271 patent discloses its mobile device logging such driving information, while the Curry-Rabu phone does not. AT-2001, ¶¶109-110. In the '271 patent, such driving information may be utilized for emergency services or in the same way data from a vehicle's black box would be utilized, which use encompasses data more comprehensive than mere raw sensor data from GPS and accelerometer sensors to fulfill the role of a black box. *See*, *e.g.*, USAA-1001, 2:16-19, 2:55-62, 5:3-12, 8:7—9:35, 13:15-30, 15:29—16:6, 16:20-33, 18:49-60. AT-2001, ¶111. A POSITA would have recognized that the mobile device must be able to log derived driving information, including detecting events, by processing sensor data from the mobile device, without the need for sensor data from the vehicle's sensors or post-processing by an external service. *See* USAA-1001, 2:16-19, 13:15-30, 31:47-48. AT-2001, ¶112.

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. 20 (emphasis added). Yet, "whether an associated vehicle is being driven" is not "*how* a vehicle is being driven," which is the basis of the derived "driving information" of the claims. *See* USAA-1001, 31:43-45 (claim element 1.7). AT-2001, ¶113.

Further, Petitioner erroneously purports that "client 110 additionally enables the Curry-Rabu phone to process 'raw data' from a driving period to derive driving information associated with a user's driving behavior." Pet. 20. AT-2001, ¶113. Petitioner cites to a wide swath of information in Curry 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. 20, citing USAA-1005, Abstract, 7:5—8:2, 8:29—10:26, 13:27-33. These cited portions rather relate only to Curry's phone 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, and handling the phone call based on that context, while Curry depends on a central server for statistical analysis and calculating safety scores. *Id.,* 7:5-15, 7:31-32, 8:29—10:26; 13:27-33; *see also id.*, 11:15-18. AT-2001, ¶114.

Petitioner further mis-cites claim element 1.1 as "log[ging] driving *activity* associated with a vehicle" (Pet. 20), apparently to inaccurately mold Curry's

"*activity* mode recognition" to the claims. Petitioner further purports that Curry discloses "us[ing] the derived information to generate a 'driving safety score' for the user," regardless of a driving score not being part of claim element 1.1, notwithstanding that Curry's phone does not "use the derived driving information to generate a 'driving safety score.'" AT-2001, ¶115.

First, Curry does not disclose its phone "deriv[ing] driving information" as intended by the '271 patent's specification. *Id.*, ¶116. Second, 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.*, FIG. 1, element 102) "to enable visualization of possible violations of mobile phone use or unsafe driving behavior…." *Id.,* 9:23-28. AT-2001, ¶¶116, 119. Third, even if "speeding, abnormal acceleration and sharp turns" can be said to be "driving information," this determination is clearly performed off of Curry's phone. *See* USAA-1005, FIGs. 1, 2. AT-2001, ¶116. Fourth, when reading Curry, a POSITA would have understood Curry's server to calculate driving scores post-processing; Curry does not disclose its phone calculating a driving score. *See* USAA-1005, 11:7-12; compare *id.*, 7:13-15, 9:23-33, 13:1-19, 14:19-23, 16:13-18, FIGs. 1, 2. AT-2001, ¶117.

Because no driving information is determined by Curry's mobile phone, it is Curry's server that actually logs driving information. *See* USAA-1005, FIG. 1 ("Uploading" from "Motion Data Cache 118" and transmitting raw data as "Driving Safety Performance Data" to "Driving Safety Data Server 104"), FIG. 2, 13:1-19. Even 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" (USAA-1005, 13:27-33) "to allow or disallow users to receive or make a call, text a message,…or use other components…on …a mobile phone" (*id.,* 14:5-8). AT-2001, ¶118.

[1.3] a user interface;

Claim element [1.3] requires "a user interface" of the mobile phone. USAA-1001, 31:35, 39. While the Curry phone obviously includes a user interface, Petitioner's citations to a Curry user interface reference that 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. Pet. 21. *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. Pet. 21. USAA-1005, 9:23-28, 10:2-5. The user interface of the server does not satisfy claim element [1.3]. AT-2001, ¶122.

[1.6] determine, based on inputs received by the user interface and sensor data from the 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 and Rabu, alone or in combination, does/do not teach, suggest, or render obvious all 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. 12-13. The sole input on which Curry relies to meet [1.6] is the receipt (or attempted placement) of a call or text message that initiates GPS data recording, as seen in FIG. 4. AT-2001, ¶123.

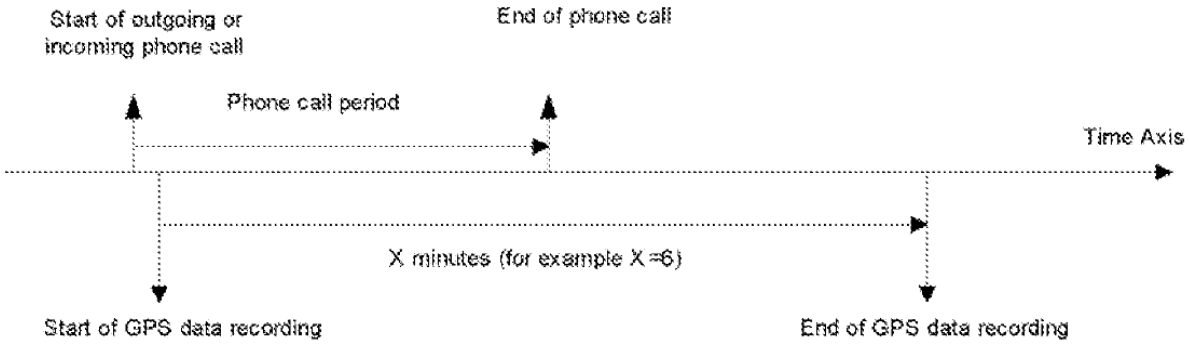



FIG. 4

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 is recorded for some pre-set ("X minutes") duration. *Id.*, 16:7-13. Based on this raw data, Curry's phone estimates its activity status as "driving, walking, remaining still, or unknown…" to operate the phone. *Id.*, 10:16-26 ("If…driving, the mobile phone can automatically switch to the GPS navigation mode….[I]f…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. AT-2001, ¶¶124-125.

Importantly, because the data recording period is initiated by the start of an outgoing/incoming phone call/text message, Curry does not determine the "start of a driving period," because the triggering event (the call or text) does not occur at the start of the period in which the vehicle is being driven. *See*, *e.g.*, USAA-1001, 2:3-5 (defining the driving period as the period in which the vehicle is being driven by a driver); 3:12-18 (same). Instead, Curry, at most, discloses a call handling program that is limited to handling a call/text at the time it is received or made to "detect and prevent…talking on or texting with mobile phones while driving." USAA-1005, 7:5-8. Curry further discloses recording data from the time of the text/call, for some finite time, for later processing to analyze driver safety at the

remote server, not at the phone. *Id.*, 7:8-15, 11:3-7, 16:7-18, FIGs. 2, 4. Curry's recording period does not start a "driving period" as claimed. AT-2001, ¶¶127-126.

Further, because Curry's recording period is a finite time period with no association to a driving period (*see*, *e.g.*, USAA-1005, 16:10-13, FIG. 4, each 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 a driving period. Instead, Curry simply records raw sensor data for some arbitrary period 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, including an end. *See*, *e.g.*, USAA-1001, 19:54—20:15, FIG. 4a. AT-2001, ¶¶128-129.

Combining Curry with Rabu fails to resolve these deficiencies. Rabu has nothing to do with the determination of the start of a driving period. Rather, Rabu determines holder status and 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., 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 in time. *See*, *e.g.*, *id.*, FIGs. 8, 9. As such, Rabu fails to address the deficiencies in Curry. AT-2001, ¶130.

[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 and Rabu, alone or in combination, does/do not teach, suggest, or render obvious all elements of claim element [1.7]. USAA-1001, 31:43-45. Petitioner attempts to meet this claim element in Curry by focusing on the mobile device's determination of "whether" a vehicle is being driven (e.g., estimation of the type of activity as "driving"), not *how* the vehicle is being driven. *See* Pet. 20, 30. Nowhere does Curry disclose or suggest the processing of raw sensor data for the derivation of "driving information" to determine "how" the vehicle is driven (such as "detailed information associated with the behaviour of a vehicle during a crash"). *See*, *e.g.*, USAA-1001, 4:67—5:9, 13:65—14:2, 16:20-33, 19:9-12, 25:25-27. AT-2001, ¶131.

Further, 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. AT-2001, ¶132. Contrary to Michalson's assertion, to the extent that any processing is disclosed in

Curry, a remote server performs it. *See*, *e.g.*, USAA-1005, FIG. 1 (showing the uploading of raw data from 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 phone's motion data cache transmits raw sensor data to a remote data server so that the server determines a driver safety statistic dependent on certain user behaviors). This claim element clearly requires that the phone process data to derive "driving information," but, as that is done only on Curry's remote server, Curry does not teach or suggest this element. AT-2001, ¶133.

Combining Curry with Rabu fails to solve these problems. Rabu merely determines the phone's holder status and a holder motion status, using the device's orientation angle and frequency spectrum while held by a holder, respectively, and from those statuses, the mode of the device. USAA-1013, 7:31-60, FIG. 5. AT-2001, ¶134. Rabu's unreliable use of 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.*, USAA-1013, 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, ¶135.

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

Curry and Rabu, alone or in combination, does/do not teach, suggest, or render obvious all elements of claim element [1.8]. USAA-1001, 31:46. Petitioner contends that Curry stores information derived from processed sensor data ("selection of driving information") to memory (e.g., motion data cache) prior to transmission (e.g., to driving safety data server). Pet. 31 (citing USAA-1003, ¶149). 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 supra* Section V.A. AT-2001, ¶136.

Moreover, Curry does not disclose storage of a selection of driving information to the memory of the mobile device. Rather, Curry's phone stores *all* recorded sensor data, not a selection. *Id.*, ¶137. As Curry 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 [here, only raw data] can be sent back to the server 322 through mobile communication links 320." USAA-1005, 14:19-23. Curry describes post-processing by the remote server, not by the mobile device, so Curry's phone transmits *all* sensor data, not just a selection, for this post-

processing. *Id.*, 7:8-10, 8:30—9:1, 9:23-33, 11:15-18, 13:1-5, 14:19-26, 16:7-18, 17:32—18:3. AT-2001, ¶138.

While Petitioner argues 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" (Pet. 32), Petitioner fails to read the claims in light of the specification. *See Phillips*, 415 F.3d at 1315. The '271 specification clearly explains why determining and storing a selection of the driving information is important and describes how a selection of driving information is selected for storage and subsequent transmission to third parties. USAA-1001, 13:43—14:4, 16:34—17:46, 17:59-67, 18:49-60. Curry discloses no similar functionality. AT-2001, ¶¶139-140.

Although Petitioner argues that "it would have been obvious to store in the Curry-Rabu phone a subset of (i.e., selection of) the recorded sensor data" (Pet. 32), Petitioner continues to mischaracterize the features of Curry's phone. Petitioner alleges, "Curry explains 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., motion data indicating possible use violations, unsafe driving behavior)." *Id.* However, all data in the motion data cache is needed to compare with the user permission data, because Curry's phone

considers *all* raw sensor data in the motion data cache at the time of a phone call to "precisely" determine activity mode (*see* USAA-1005, 13:27—14:4, 17:1-14, FIGs. 3, 5), then to compare that "activity mode…recognized in real-time" to the user permission to determine whether to block a call (*see id.*, 14:5-16, FIG. 3), and further for the server to perform post-processing on the collection of data, including the activity mode data (*see id.*, 14:19-26). AT-2001, ¶¶141-142.

Petitioner incorrectly references "*Ex Parte Sullivan*" to assert that "'selection' of driving information results from improper inferential claiming and is non-limiting since such selection is not one of the operations recited to be performed by the 'mobile telecommunications device.'" Pet. 31, fn. 6 (citing *Ex Parte Sullivan*, Appeal No. 2002-1924 (PTAB June 20, 2016)). In *Ex Parte Sullivan*, Appeal No. 2014-005800 (PTAB 2016), the Board established a rule against describing a claim element in terms of another structure that is not referred to elsewhere in the claim. *See id.*, 4. The Board defined this "inferential claiming" as "introducing a new element in the middle of a recitation or description of another element in a claim." *Id.* The Board concluded that "a defibrillation port for guiding via electrodes" was an example of inferential claiming that resulted in "uncertainty as to whether the claimed 'electrodes' are part of the apparatus as defined by the claim." *Id*.

The *Ex Parte Sullivan* "improper inferential claiming" rule does not apply to [1.8]. Petitioner objects to element [1.8]'s recitation of "store a selection of the driving information to the memory," because "such selection is not one of the operations recited to be performed by the 'mobile communications device.'" Pet. 31, fn. 6. However, "selecting" does not have to be a recited method step for "selection" to hold meaning in the claim. In *Ex Parte Sullivan*, the issue regarded a potentially ambiguous part of an apparatus – electrodes, not a method step. The issue was not that electrodes were not shown to be positively doing something in the claim. The issue was that the claim wording "a defibrillation port for guiding via electrodes" ambiguously introduced "electrodes" such that it was not clear whether the electrodes were part of the claimed apparatus. *See Ex Parte Sullivan*, 4. In the present claims, "selection" is a noun that plainly means a choice of the driving information. Further, the specification of the '271 patent clearly identifies what the selection is and how the selection is made, such that "selection" is a material term in the claim. *See*, *e.g.*, USAA-1001, 4:43—5:17.

[1.9] <u>wherein the driving information is derived without data from vehicle sensors</u>

Petitioner rehashes many of its previous arguments for claim elements [1.6] ("determine…a start of a driving period") and [1.7] ("process the sensor data…during the driving period to derive driving information") (Pet. 33-34), which

Patent Owner opposes for reasons previously provided. *See supra* Section V.A., [1.6], [1.7]. While Petitioner asserts that "Curry never once describes or suggests leveraging the vehicle's sensors," the statement ignores that "driving information," if derived at all by Curry, is derived by Curry's server, not by Curry's phone. *Id.*, 34.

[1.10] wherein the mobile communications device is controlled by a downloaded application to control the mobile device to register the start of the driving period in response to an initialization input generated automatically in response to the sensor data having predetermined values, wherein the initialization input is generated in response to sensor data reflecting a detected speed above a predetermined threshold.

Petitioner again rehashes many of its previous arguments for claim element [1.6] (Pet. 34), which Patent Owner opposes for reasons previously provided. *See supra* Section V.A.. Petitioner fails to particularly point out what elements of Curry and Rabu map to the features of claim element [1.6]. Petitioner then mischaracterizes FIG. 1 to attempt to illustrate that "a downloaded client application 110 processes 'raw data' from a driving period to derive driving behavior that is stored locally prior to later transmission to a 'driving safety data server.'" *Id.* However, Curry's phone has no way to determine a "driving period" and does not derive driving information according to the claims. "User activity mode recognition," which merely estimates *that* a phone is in a driving vehicle and

*that* a phone is being used at the time a vehicle is driving, is not deriving driving information. Simply, using a phone is not driving a car. AT-2001, ¶146.

Even if Curry's phone can detect a certain speed from recorded data that would indicate to the phone that a vehicle is in a driving mode, the phone uses this information in conjunction with user permission data to determine whether to block the call. The phone does not start a driving period for collecting further sensor data to derive driving information. AT-2001, ¶147.

The Board preliminarily agreed with Petitioner "that Curry's mobile phone 106 performs the Initialization Limitation," stating that "client unit 110 registers the start of the driving period in response to an initialization input generated automatically in response to the sensor data reflecting a detected speed above a predetermined threshold," *but without citation to the Petition or Curry.* Institution Decision, 51. This is incorrect. Patent Owner agrees with the Board that "Curry…indicates the 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. *Id.* Patent Owner has, all along, insisted that this is the crux of Curry's invention. Patent Owner further agrees that "[c]lient unit 110 uses this recorded speed information to determine *whether* the user is driving a vehicle, and also to apply preset permission policies to phone operations." *Id.* AT-2001, ¶148.

However, it is incorrect that "this speed data is part of what automatically determines and registers the start of a driving period. …[T]his appears to be all that the Initialization Limitation requires the mobile device to perform." Institution Decision, 51. As Patent Owner has insisted, Curry's phone features are untethered from a driving period. *See supra* Section V.A (claim element [1.6]). Determining "*whether* the user is driving" at a snapshot in time (when a phone call is received or made and possibly sometime thereafter) says nothing about when the driving period started or ended. Further, using a phone is not driving a vehicle, no matter how many times a call comes in or is made while a user is driving. This is made clearer considering that when a phone call is received, for example, Curry's phone does not yet know the activity mode of the phone. Curry's phone must perform a process disclosed in at least one of FIGs. 3, 4, and 5 to first determine an activity mode (e.g., driving, low-speed driving, running, walking, stationary). *See* USAA-1005, FIGs. 3, 4, 5. To make this determination, the phone first records raw sensor data according to FIG. 4 and evaluates the raw sensor data to determine activity mode, according to FIGs. 3 and 5. *Id.* Thus, while Curry starts *something* with the received phone call, that something is, at best, a recording period, not a driving period. AT-2001, ¶149.

This is not an issue of mere semantics. Claim element [1.6] requires "a start of a driving period during which the mobile device is removably attached to the

vehicle and the vehicle is in use" to be determined "based on inputs received by the user interface and sensor data from the sensor set." USAA-1001, 31:39-42, 31:49-56. As the Board acknowledges, the only things Curry can do, based on the logical timing of its activity mode recognition and phone call blocking features, are estimate *whether* a phone is in a driving vehicle and block a call that occurs immediately before the time of that estimation. *See* Institution Decision, 51. Whether a vehicle is *driving at a point in time* does not define a *driving period* of the vehicle. The Board further recognizes this as "identify[ing] a driving *mode*," not a driving *period*. *Id.* (emphasis added). Although the Board then states that "this speed data is part of what automatically determines and registers the start of a driving period," this improperly conflates a driving mode determination with determination of a start of a driving period. This would not comport with the '271 patent's specification and claims, which require "logging driving information associated with a vehicle when driven" and "during which the mobile device is installed to the vehicle and the vehicle is being driven by a driver." USAA-1001, Abstract, 31:29-56. AT-2001, ¶150.

Petitioner fails to particularly point out where the cited art discloses "an initialization input generated automatically" according to [1.10]. *See* Pet. 34-39. Petitioner does not discuss "initialization input" until pages 38-39 of the Petition. Pet. 38-39 (citing USAA-1005, 7:5-22, 9:5-11, 8:30—9:33, 16:7-22, 17:1-22,

FIGs. 1, 5). All of these passages describe activity mode recognition and/or call handling, but none disclose an initialization input. Further, the initialization input, as a distinct element of the claim, cannot be a phone call, as Petitioner has already mapped a phone call to the "start of a driving period." *See* Pet. 34 (citing Pet. 25; USAA-1005, 8:30-33, 13:25-26, FIGs. 3-4).

None of Curry's FIGs. 3-5 reveals an initialization input generated by the mobile phone upon a detected speed from sensor data found to be above a predetermined threshold, where the initialization input controls a mobile device to register the start of a driving period. *See* USAA-1005, FIGs. 3, 4, 5. AT-2001, ¶151. Specifically, in FIG. 3, "motion recording activation" 302 merely starts sensor data collection from GPS sensor 314 and accelerometer 316, before driving is determined by activity mode analysis. USAA-1005, FIG. 3, 302. "Start of an outgoing or incoming phone call" merely starts a "phone call period," during which "GPS data recording" starts. *Id.*, FIG. 4. FIG. 4 does not support that the "GPS data recording" period or "phone call period" are themselves a "driving period" or that the start of the GPS data recording period or phone call start a driving period. AT-2001, ¶152.

FIG. 5 illustrates Curry's activity mode recognition process, but nothing within that process indicates generation of an initialization input to control the mobile phone to register the start of a driving period. *See* USAA-1005, FIG. 5.

Curry's FIG. 5 illustrates that the output of the activity mode recognition process is determination of discrete activity modes: driving, stationary, running, walking, or low-speed driving. *Id.* Identifying a mode is not registering the start of a driving period. AT-2001, ¶153.

### B. Petitioner Lacks Sufficient Motivation to Combine Curry and Rabu[7]

#### 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

[7] Petitioner also lacks sufficient motivation to combine Katayama (USAA-1024) with Curry and Rabu. Petitioner cites Katayama but does not sufficiently explain how Katayama supports Ground 1A for its obviousness contentions. Pet. 36-39. Insofar as Petitioner combines Katayama with Curry and Rabu, Petitioner's obviousness analysis is deficient and should fail on this point alone. "Such bare citations to Katayama's disclosure, without explanation, do not satisfy Petitioner's burden to 'show *with particularity* why the patent it challenges is unpatentable' in view of Katayama in Ground 1A." Institution Decision, 52 (citing *Harmonic*, 815 F.3d at 1363 (emphasis in original)).

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. Lacking any reasonable expectation of success in making that proposed combination, no claim may be found obvious over that combination. AT-2001, ¶160.

Petitioner states that "[a POSITA]...would have found obvious integration of Rabu's dock status sensing and associated mode-shifting capabilities into Curry's phone." Pet. 11. However, 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 low probability of success, and created significant technical hurdles, the solutions to which are nowhere in either Curry or Rabu. AT-2001, ¶161.

For example, 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. 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. A POSITA would have understood that the cost of choosing the incorrect activity mode would be significant, and the more modes introduced, the more opportunities there would have been for failure. AT-2001, ¶162.

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." USAA-1013, FIGs. 8, 9, 10. 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." *Id.*, 7:32-37. AT-2001, ¶163.

Rabu cannot reliably determine the necessary frequency spectra of different PMDs, drivers, vehicles, roadways, and situations so that each distinct activity possibly experienced by a PMD holder would have a distinct frequency spectrum for comparison. Thus, the overall accuracy of correctly determining motion status would have been very limited for different mobile devices, drivers, vehicles, etc. However, Curry's activity mode selection needs to occur in very specific situations, but there is far too little data provided in Rabu that would have given a POSITA a reasonable expectation that this technique would have worked reliably

across the range of conditions typically encountered by a phone being held or in a moving vehicle. AT-2001, ¶163.

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, Rabu's observation of distinct frequency spectra 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." *Id.*, 7:54-60 (citing AT-2002). 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 factors, including location, mounting type, vehicle type, vehicle maintenance status, vehicle load, road surface, and others. AT-2001, ¶¶164-165.

Each of these factors (and ideally all combinations) would have needed to be considered to successfully implement Rabu's system. 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, ¶166.

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, suggested to a POSITA a very *low* likelihood of success. As such, Petitioner's summary conclusions of an alleged reasonable expectation of success must be disregarded.

**2. Petitioner's Rationale to Combine Curry and Rabu Is Based Entirely on Impermissible Hindsight**

Petitioner's reasons for combining Curry and Rabu are not supported by sufficient evidence, and Petitioner impermissibly relies on hindsight and piecemeal construction of the claims for its analysis. To avoid hindsight bias, the obviousness inquiry is not limited to whether the elements of the '271 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 '271 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…." *Intercontinental Great Brands LLC v. Kellogg N. Am.*, 869 F.3d 1336, 1343 (Fed. Cir. 2017).

Petitioner's rationale to combine Curry and Rabu relies on using the '271 patent as a roadmap for reconstructing the claims based on hindsight, despite indications that the combination is fraught with problems. But while Petitioner uses the '271 patent claims as a template to cobble together Curry and Rabu, Petitioner does not suggest motivation to combine Curry and Rabu in the way claimed in the '271 patent, routinely ignoring the invention as a whole and the context of the entire '271 patent, in contradiction of *Phillips*. 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 '271 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 '271 patent relies on the availability of continuous sensor data to ensure that data regarding how a vehicle is being driven is captured during a driving period. *See* USAA-1001, 16:20-64, 17:3-46, 18:49-60. A POSITA would not have been motivated to look to Curry to arrive at the '271 patent's claims because Curry intentionally limits the use of sensor data until a phone call is received or made, rendering the Curry-Rabu combination unable to meet the intention of the '271

patent to log driving information according to the claims. *See*, *e.g.*, USAA-1005, 3:2-4:28; 16:7-13; FIG. 4; *see also id.*, 14:28—15:7. AT-2001, ¶168.

Although Petitioner proffers certain rationale to combine Curry and Rabu, the rationale does not support such combination with any regard to the aims of each reference or the success of the combination. For example, even if Curry might benefit from the more nuanced mode determinations and "mode-shifting" of Rabu (*see* Pet. 11-15), Curry is still only directed to preventing phone calls during one mode – driving, and Curry's phone does not pay heed to the characteristics of the driving. Curry only cares *that* a phone indicates driving, not *how* a vehicle is driving. AT-2001, ¶146.

Considering the cited art as a whole, and without the benefit of hindsight, a POSITA would never have picked up Rabu to use frequency spectra for determining Curry's mode of operation, because it would simply be too unreliable and have little return on investment. AT-2001, ¶169. Even in hindsight, Petitioner ignores that "preventing cell phone use while driving" cannot be transformed into black-box-like vehicle data logging merely by adding features for holder status and holder motion status.

# VI. GROUND 1B: CLAIM 1 IS PATENTABLE OVER THE COMBINATION OF CURRY, RABU, AND KATAYAMA[8]

## A. Claim 1 is Patentable Over the Combination of Curry, Rabu, and Katayama

Petitioner's mapping of Curry, Rabu, and Katayama to Claim 1 fails at least because the combination of Curry and Rabu fails and the addition of Katayama does nothing to cure the deficiencies of the Curry-Rabu combination. *See supra* Section V.

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

Katayama is directed to "a vehicle-mounted driving recorder that can facilitate an after-the-fact analysis on…situation data at a time of an accident [and] at a time of [a risk incident]." USAA-1024, Abstract, [0009]. Katayama is prohibitively different from the '271 patent: (1) Katayama does not disclose a mobile phone; (2) Katayama is akin to a black box data recorder that is required to

[8] Grounds 1A and 1B are redundant. Further, Petitioner's misuse of Katayama in Ground 1A, for which Petitioner provided pages of citations without explanations and no reason to combine, is further evidence that a POSITA would not have looked to Katayama, because even Petitioner did not deem its details necessary to explain.

be connected to the vehicle's sensors; and (3) Katayama requires data from the vehicle sensors. *Id.*, Abstract, [0038], [0039], [0042]-[0044], FIGs. 4-6.

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 (and which Petitioner fails to particularly point out), or from a POSITA considering Claim 1 of the '271 patent, which the Board notes does not claim utilization of long-term memory. Institution Decision, 56. Petitioner must provide, *with particularity*, rationale to combine the teachings of the cited art. *Intercontinental Great Brands*, 869 F.3d at 1343 (the relevant skilled artisan must have "a motivation to combine pieces of prior art in the way eventually claimed in the patent….").

Regardless, the Board states that "Petitioner has explained with supporting evidence how the combination of Curry, Rabu, and Katayama teaches or suggests the Initialization Limitation of claim 1…[and] how a [POSITA] would have been motivated to partition the Curry-Rabu phone's existing memory into a temporary storage portion and a long term storage portion…to avoid inadvertent erasure of important information." Institution Decision, 56. However, this has nothing to do with the "Initialization Limitation," particularly registering the start of a driving period, which none of Curry, Rabu, or Katayama disclose. A POSITA simply

would not have been motivated to jump through hoops of combining the vehicle black box configuration of Katayama with the smart phone configuration of Curry and Rabu. *Id.*

Regardless of whether a POSITA could combine Katayama with Curry and Rabu, most concerning is the Board's statement, "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 storage when a minimum vehicle speed has been exceeded." *Id.* (citing Pet. 49-51) (emphasis added). This is incorrect under § 103. In an obviousness analysis to combine tertiary reference C (in this case, Katayama) with primary and secondary references A and B (in this case, Curry and Rabu, respectively), one cannot look to reference C (the tertiary reference) for motivation to combine. That is simply contradictory to § 103 and the requirements of an obviousness analysis. When looking at Curry and Rabu, a Petitioner would not know the "beneficial results described in Katayama" unless it knew of Katayama in hindsight. Under § 103, the requirement of a reason to combine cited references is a safeguard against hindsight bias, 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).

Petitioner cannot get motivation from Katayama, and if Petitioner did not get the motivation for Katayama's AI-based black-box storage configuration from smartphone-based Curry and Rabu, where else did Petitioner get the motivation besides the claims of the '271 patent themselves? Petitioner provides no other reasonable motivation.

## VII. GROUND 1C: CLAIM 3 IS PATENTABLE OVER THE COMBINATION OF CURRY, RABU, AND TAMIR

Claim 3 ultimately depends from Claim 1 and incorporates the same limitations therein. Thus, for at least the same reasons as are set forth above, Claim 3 is patentable over the proposed combination. The addition of Tamir does not cure these shortcomings.

## VIII. GROUND 1D: CLAIM 4 IS PATENTABLE OVER THE COMBINATION OF CURRY, RABU, AND MCCLELLAN

Petitioner's arguments (Pet. 57-58) fail for Claim 4 at least because they fail for both Curry and Rabu as discussed above for claim elements [1.1]-[1.10] (*see supra* Section V) and as applied by Petitioner for claim elements [4.1]-[4.9]. McClellan is not cited to cure these shortcomings of Curry and Rabu.

The subject matter of Claim 4, like the subject matter of Claim 1, is performed *by a mobile telecommunications device*. *See* USAA-1001, 32:1, 32:21-

29. However, every one of Petitioner's references to Curry cited against Claim 4 are to features not performed on a mobile phone:

- Curry's server "cross-check[ing]" data for "later driving safety score evaluation" (Pet. 54, citing USAA-1005, 13:3-5, referring to FIG. 2, 206, 208, 212 at Curry's server);
- Curry's server setting "an initial driving score," adjusting it "during subsequent driving periods," and "compil[ing] and summariz[ing] [it] to form a driving safety score" (Pet. 54, citing USAA-1005, 13:5-19, referring FIG. 2, 212, 214, 216, 218 at Curry's server);
- Curry's "safety evaluation data sharing" via a "data exchange server" (Pet. 54-55, citing USAA-1005, 10:3-12, referring to FIG. 2, 216 at Curry's server); and
- Curry's "driving safety evaluation module" (Pet. 54-55, citing USAA-1005, 7:15-17, referring to FIG. 2, 212 at Curry's server). AT-2001, ¶192.

The Curry-Rabu phone is deficient as to Claim 4 before Petitioner combines it with McClellan. Petitioner never explains why it would have been obvious to move Curry's server functionality onto Curry's phone before combining Curry

with Rabu or McClellan. Petitioner does not further provide rationale for why a combination with McClellan would cure this deficiency.

## IX. GROUND 2: CLAIMS 6 AND 7 ARE PATENTABLE OVER THE COMBINATION OF CALLOPY AND CURRY

Petitioner incorrectly alleges that the combination of Callopy and Curry renders Claims 6 and 7 obvious. *See* Pet. 59-80. Petitioner fails to particularly point out how Callopy and/or Curry disclose, teach, or suggest every aspect of claim elements [6.9] or [7.9], which the specification of the '271 patent supports.

### A. Claims 6 and 7 Require A Mobile Device That is Part of a Data Logging System to Generate a Driving Score

Both Claims 6 and 7 recite "[a] data-logging system for logging *driving information received from a remote mobile telecommunications device*…the driving information derived based on inputs received by a user interface of the remote mobile telecommunications device and sensor data from a sensor set of the remote mobile telecommunications device, the driving information derived without data from the vehicle sensors…wherein the driving information comprises at least one of a driving score and sensor data captured and processed by the remote mobile telecommunications device during a driving period during which the remote mobile telecommunications device is removably attached to the vehicle being driven by the driver." USAA-1001, 32:40-41, 32:55-66, 33:5-6, 33:20—34:9. A plain reading of this claim language makes clear that driving information is

derived by the mobile device, which captures and processes sensor data along with a driving score as part of the driving information for the rest of the data-logging system. AT-2001, ¶194.

First, the Board indicates that the "at least one of" "limitation is satisfied if the system received sensor data, but not a driving score, from the mobile device." Institution Decision, 58. The claim, however, requires that the system receive driving information from the mobile device. That the driving information is derived by the mobile device, which has no equal in Curry or Callopy, is important. AT-2001, ¶195. The Board discounts these elements by not first acknowledging that the derived information from sensor data and a driving score can both be, and is, encapsulated in the driving information.

The Board states: "a later limitation in claim 6 expressly requires that the *data-logging system* is arranged to generate a driving score." Institution Decision, 58. Patent Owner agrees but confirms that this fact does not negate that the mobile device of the data-logging system generates a driving score. Further, other aspects of the data-logging system, besides the mobile device, can also generate a driving score. This is explicit in the specification. *See* USAA-1001, 10:13-16 (noting the mobile device may generate a driving score), 11:66—12:9 (noting the driving information comprises a driving score, and preferably sensor data captured and processed by the mobile device, and likewise that "the system is arranged to

process the driving information logged to the corresponding account to generate a driving score"). A POSITA, reading the entire specification, would have understood that there can be a driving score generated separately by each of the mobile device and the data-logging system. AT-2001, ¶196.

Thus, Patent Owner disagrees that "the '271 patent disclosures…do not support Patent Owner's construction that the mobile device must generate the driving score." Institution Decision, 58-59. As per above, Patent Owner's constructions agree fully with the specification.

Claim 6 certainly requires the mobile device to generate the driving score and the record repeatedly provides that support.

### B. Claims 6/7 are Patentable Over the Combination of Callopy and Curry

For both claim elements [6.9] and [7.9], Petitioner admits that "Callopy does not explicitly teach calculating scores…for determining insurance premiums." Pet. 61. Petitioner then alleges, based on Curry, that "doing so would have been obvious to a POSITA," providing only conclusory explanation that "the use of a score was well-known by the critical date, as evidenced by Curry." *Id.* Showing "use of a score" is not, however, sufficient for reading on the particular elements of Claims 6 and 7, because "*use* of a score" is not the same as *deriving* "driving information comprising at least one of a driving score.…". Petitioner does not show that Curry teaches calculating scores by the mobile phone. Indeed, as

discussed above, the only derivation of any driving information, including driving scores, disclosed in Curry is performed at the server. *See supra* VIII.A, Ground 1A. AT-2001, ¶198.

Thus, Petitioner is incorrect that "Curry describes setting an initial driving score…and sharing the score with an insurance company to determine insurance premiums." Pet. 62. Petitioner cites to Curry at 13:3-14, but this passage of Curry does not disclose that Curry's mobile phone derives any driving score. *See* Pet. 62. Rather, in this passage, Curry discloses that "[t]he safety performance data [208 in FIG. 2] and use permission data [206 in FIG. 2] can be crossed checked with each other and used in a later driving safety score evaluation module 212." USAA-1005, 13:1-5. These elements are external to Curry's mobile phone; rather it is on the Driving Safety User Control and Monitoring Web Site 102, on Curry's server. *See id.*, FIG. 2, 13:1-5. AT-2001, ¶199.

Petitioner also cites to Curry at 7:13-17, which discloses, "A driving safety evaluation module [212 in FIG. 2] can be used to perform a statistical analysis on collected raw driving data. The evaluation module can then calculate corresponding safety scores." Pet. 62; USAA-1005, 7:13-15. This reference, again, points to the same element of Curry outside the mobile phone. *See* USAA-1005, FIG. 2. Similarly, Petitioner cites to Curry at 10:2-12 which discloses that "[t]hrough a data exchange server [Driving Safety Data Server 104] or a data

exchange interface [Driving Safety User Control and Monitoring Web Site 102], *a system user* can share the safety score of the user of the mobile phone 106 with a third party such as an insurance company 130 to obtain insurance premiums." Pet. 62; USAA-1005, 10:2-4 (emphasis added). Here, Curry discloses that the system user, not the user of the mobile phone, uses a resource (data exchange server or interface) outside of the phone to share safety scores. *See* USAA-1005 at 10:2-4. AT-2001, ¶200.

Further, Petitioner asserts, "Curry teaches that insurance companies determine insurance premiums using a driving safety score determined by a mobile device from the sensor data." Pet. 63 (citing USAA-1005, 7:15-17). However, in the cited passage, Curry discloses that "[t]he evaluation module can then calculate corresponding safety scores." USAA-1005, 7:14-15. The "evaluation module" is once again outside the mobile phone on device 102. *See id.*, FIGs. 1, 2. Curry may teach "how sensor data is analyzed to detect 'driving safety violations,'" but this is performed by Curry's driving safety data server, not by Curry's phone. Pet. 63-64; USAA-1005, 7:15-17, 10:2-12, 11:7-14, 13:3-19, FIGs. 1, 2. In these ways, Petitioner consistently misconstrues what Curry discloses. AT-2001, ¶201.[9]

[9] Claims 6 and 7 require "driving information" to be captured and processed by the phone during a "driving period." For the reasons set forth above, Curry fails to disclose the determination of a "driving period." *See supra* Section IV.D.1. Callopy does not disclose this determination either.

### C. Petitioner Lacks Sufficient Motivation to Combine Callopy and Curry

Throughout the Petition, Petitioner impermissibly bases its own inferences on hindsight by patching together pieces of the cited art to fit the claims. *See Metalcraft of Mayville, Inc. v. The Toro Co.*, 848 F.3d 1358, 1367 (Fed. Cir. 2017) ("[W]e cannot allow hindsight bias to be the thread that stitches together prior art patches into something that is the claimed invention."). Petitioner's reasoning behind its Callopy-Curry combination is no exception. For example, Petitioner alleges that "[a] POSITA would have found obvious implementing Callopy's vehicle monitoring system for determining insurance premiums with Curry's driving score based on its collected driving data for determining insurance premiums." Pet. 62. This statement ignores the claim language in that Curry's mobile phone does not calculate driving scores. *See supra* Section IX.A. AT-2001, ¶202.

Curry's data server 208 performs its safety evaluation and scoring using motion data that the mobile phone transmits to the server (USAA-1005, 13:1-19), but there is no indication in Callopy or Curry that the mobile phone calculating scores for individual drivers would serve Callopy's purpose of dynamic insurance customization or Curry's purpose of monitoring and preventing phone use while driving. AT-2001, ¶203.

Indeed, a POSITA would *not* have been motivated to modify Callopy's system to include Curry's phone, at least because Curry does not "[teach] that insurance companies determine insurance premiums using a driving safety score *determined by a mobile device* from the sensor data." Pet. 63 (citing USAA-1005, 7:15-17, which does not disclose what Petitioner says it discloses); *see supra* Section IX.A. Callopy's system modified to include Curry's phone thus would not read on or make obvious "the driving information comprises at least one of a driving score and sensor data captured and processed *by the remote mobile telecommunications device,*" as recited by claim elements [6.9] and [7.9] (emphasis added). AT-2001, ¶204.

Further, "Callopy's lack of implementation details regarding 'analytical methods' or how insurance provider system 4035 calculates the insurance rates would" *not* have caused a POSITA to turn to Curry, at least because Curry does not provide that guidance in the way the claims recite, as discussed above. *See* Pet. 63. AT-2001, ¶205.

Petitioner likewise argues that "a POSITA would have…found obvious generating a driving score from Curry's description of adjusting an initial safety score based on driving behavior." Pet. 65. Curry, however, fails to disclose determination of a driving score by the mobile device 106. *See* USAA-1005, 13:3-

19, FIG. 1, FIG. 2. Michalson adds no evidence to support any other conclusion. *See* USAA-1003, ¶217. AT-2001, ¶206.

Petitioner does not provide, *with particularity*, rationale to combine the teachings of the cited art in the manner claimed. Instead, Petitioner uses the '271 patent as a roadmap for reconstructing the claims based on hindsight bias and to fulfill a desire to provide a mobile device that meets the claim elements. However, in laying out an obviousness analysis, "[i]t is impermissible [to use] applicant's structure as a template and select[] elements from references to fill the gaps." *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992). "To draw on hindsight knowledge of the patented invention, when the prior art does not contain or suggest that knowledge, is to use the invention as a template for its own reconstruction—an illogical and inappropriate process by which to determine patentability." *Sensonics, Inc. v. Aerosonic, Corp.*, 81 F.3d 1566, 1570 (Fed. Cir. 1996).

## X. CONCLUSION

USAA's Petition fails as Petitioner cannot show, and has not shown, that the claims of the '271 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.

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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 13,868. 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 February 29, 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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Respectfully submitted,

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