

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNITED SERVICES AUTOMOBILE ASSOCIATION,
Petitioner,

v.

AUTO TELEMATICS LTD.,
Patent Owner.

Case IPR2023-00518
Patent No. 9,633,487 B2

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

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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)

Patent Owner Auto Telematics Ltd. (“Patent Owner”) submits this Response to the Petition filed by United Services Automobile Association (“Petitioner”) for *Inter Partes* Review (“IPR”) of claims 1-13 (the “Challenged Claims”) of U.S. Patent No. 9,633,487 B2 (“the ’487 patent”).

INTRODUCTION

The ’487 patent describes methods and systems for logging driving information associated with a vehicle when driven. In one aspect, the mobile device is arranged to register the start of the driving period during which the device is installed to the vehicle and the vehicle is in use to log driving information. Importantly, the mobile device is also arranged to process sensor data during the driving period to derive driving information associated with how the vehicle is driven.

I. THE ’487 PATENT

A. The Problem Addressed by the ’487 Patent

Before the invention of the ’487 Patent, data logging devices for road vehicles, commonly known as “black boxes,” were used to log data about events associated with the behavior of a vehicle using the sensors of the vehicle. Such events could stem from a vehicle malfunction or driver negligence and causes of such events could be estimated from analysis of the logged vehicle sensor data. Taking data from

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

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

B. The '487 Patent's Solution

The '487 patent is directed to methods and systems for logging driving information associated with how and when a vehicle is being driven by a driver. USAA-1001, Abstract. A mobile device including a sensor set is adapted for installation (e.g., removable physical and/or electronic attachment) to the vehicle and configured to log such driving information and process that information to detect driving incidents and maintain such driving information related to the driving incident during a driving period. *Id.*, Abstract, 3:18-33, 4:49—5:21, 8:8-17. For example, location, speed, and acceleration of the vehicle associated with how the vehicle is driven can be captured and processed, using only the sensor data from the mobile device's sensors and processing capabilities of the mobile device. *Id.*, 5:12—6:15.

“[T]he use of a mobile telecommunication device enables a data logging device to be conveniently and inexpensively retrofitted to a vehicle....A generic mobile telecommunication device already owned by a driver of the vehicle can be loaded with the application to provide such data logging functionality that would otherwise necessitate a dedicated black-box. Thus, the functionality of a black-box can be realised without additional expense.” *Id.*, 2:12-24. However, as black-box functionality is applied to a mobile phone, storage concerns arise. The invention can limit the storage of data to a selection of important data while providing focused recording on the device of data corresponding to detected events (e.g., “driving information”). *Id.*, 2:8-12; 10:50-67.

The mobile device of the ’487 patent can process sensor data from its own sensor set to determine from the sensor data what data is most important. When a driving event is detected and considered to be important, this data is determined from the sensor data and stored to long-term storage. *Id.*, 18:5-10; *see also* AT-2001, ¶¶36-41.

II. PERSON OF ORDINARY SKILL IN THE ART

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

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

III. CLAIM CONSTRUCTION

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

¹ Patent Owner notes that in the parallel District Court proceeding involving the '487 patent (among others), Petitioner sought construction of several terms including “sensor set,” “driving period,” “driving information,” and “driving score.” As to each of these terms, the Court agreed with Patent Owner that no construction was required and that the plain and ordinary meaning of each term applied.

(2) ‘the vehicle is in use.’” Pet. at 4. Further, Petitioner asserts that “[t]hese attributes may be satisfied by a start of a monitoring period, whether at the onset of vehicle driving or whether instead before or thereafter.” Pet. at 4. Petitioner posited similar arguments in the parallel District Court proceeding, which arguments were rejected by the Court, and should likewise be rejected here.

Petitioner’s proposed construction is additionally flawed because it introduces unsupported limitations for the driving period not included in the claims. Specifically, Petitioner’s characterization of the start of a driving period as a “monitoring period” that starts at any time with respect to the onset of driving, Pet. at 4, is simply an inaccurate categorization of “driving period” that has no basis in the specification or claims. Nowhere in the ’487 specification or claims is Petitioner’s constructed term “monitoring period” used or defined. *See generally* USAA-1001. Instead, the claims require that the mobile device “determine, based on inputs received by the user interface and sensor data from the device’s sensor set, a start of a driving period *during which* the mobile device is removably attached to the vehicle and the vehicle is in use.” *See*, USAA-1001 at Claim 1 (emphasis added). The claim language itself accurately captures the scope of the invention, and there is no need for a different construction incorporating Petitioner’s manufactured limitations for the driving period.

A. Claim Language

The '487 patent's one independent claim provides:

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

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

a user interface;

a processor; and

a memory;

the mobile telecommunications device configured to:

determine, based on the inputs received by the user interface and sensor data from the device's sensor set, a start of a driving period during which the mobile device is removably attached to the vehicle and the vehicle is in use;

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 the memory;

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
response take at least one pre-determined action.

USAA-1001 at 31:42-67. The dependent claims claim other elements of the invention including the configuration of the mobile device to permit a user to confirm the occurrence of a pre-determined event (*e.g.*, an accident), saving driving information at a higher update rate to short term memory than long term memory, overriding driving information to conserve memory space, and processing driving information to generate a driving score associated with a particular driver. *Id.*, 32:4-62.

Claim 1 requires that the mobile device be configured to determine, “based on the inputs received by the user interface and sensor data from the devices sensor set, ***a start of a driving period.***” *Id.*, 31:52-54 (emphasis added). Critical to the functionality of the invention is that the mobile device determines the start of a driving period to initialize its logging functionality on the mobile device. Claim 1 also requires 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.*, 31:57-59 (emphasis added).

Once the start of the driving period is determined, the mobile device processes sensor data from its sensor set, from the start of the period in which the vehicle is

being driven and during that entire driving period, to derive driving information associated with how the vehicle is driven and to store this derived driving information. *See* AT-2001, ¶¶46-48.

B. The Specification Supports Patentability

According to the specification, at the time of the invention, automotive black boxes integrated with vehicle sensors were prohibitively expensive and difficult to install. USAA-1001 at 1:44-55. The inventor realized that use of a mobile device for automotive black box functionality would provide a convenient and inexpensive alternative. *Id.*, 2:12-24; 32-37.

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

“[T]he use of such a generic mobile device in this context may be counter-intuitive to a person skilled in the art—such generic devices are not designed to withstand events such as catastrophic crashes. Furthermore, such generic devices are usually not necessarily configured to appropriately detect conditions that may need to be recorded.” USAA-1001 at 2:56-62. Thus, the invention was ahead of its time. AT-2001, ¶51.

In addition to these concerns, the inventor recognized a number of other concerns regarding using a mobile device for black box functionality. For example, recognizing memory limitations of mobile devices, the inventor understood the need to “register[] the start of a driving period during which the [mobile device] is...is being driven” which “minimis(es) the unnecessary usage of memory.” USAA-1001 at 3:20-27. Further, the inventor understood the need to make utilization of the “finite storage capacity” on the mobile device more efficient. *Id.*, 3:20-27. To that end, the mobile telecommunications device “store[s] only selected driving information for the purpose of logging how the vehicle is driven during a driving period.” *Id.*, 4:49-51, 57-58.

The specification defines “sensor data *and* driving information” as two different things. *See, e.g., id.* at 19:17-28. “Driving information” is defined as “any data which may be derived from raw sensor data captured by any one of the...modules.” *Id.*, 16:51-56. “The processor module is also configured to analyze

sampled sensor data and generate[] driving information to determine if a driving incident has occurred.” *Id.*, 16:62-64. *See* AT-2001, ¶¶52-57.

Thus, the processor of the mobile telecommunications device provides a large suite of processing features similar those of a black box, with additional features enabled by the technology of the mobile device. *See, e.g.*, USAA-1001 at FIG. 3; 2:2-4; 2:46-51 (processor executes the downloaded application); 13:64—14:41 (processor forwards data related to a driving incident to an insurance server and/or emergency services); 18:63—19:10 (processor determines start of a driving period); 17:53-55, 19:17-22 (continuous analysis of sensor data); 16:62-64, 19:23-25, 19:29-64 (determination of whether a driving incident has occurred); 23:18-40 (processor performs benchmarking); 6:33-38 (processor pairs mobile device with driver and/or vehicle); 22:9-11 (processor monitors driving performance and generates a user profile); 10:27-30 (generation of a driving score); and 10:42-45 (data/video feedback/display). AT-2001, ¶58.

Like a black box, the mobile device includes an event detector for detecting occurrence of a “predetermined event of significance.” USAA-1001 at 5:27-43; 31:65-66. The specification defines this event as a “serious accident event” (*id.*, 5:39-43; 64-65) or a “serious impact, and overturn[]” “corresponding to both the deceleration...and the orientation of the vehicle” (*id.*, 5:67—6:2). However, the

specification does not define, nor did the inventor intend, the predetermined event of significance to be a phone call. *Id.*, 3:36—4:48; *see* AT-2001, ¶¶61-62.

When the mobile device performs its own processing to detect a predetermined event, it can take a predetermined action. USAA-1001 at 31:66-67. Such “predetermined action” can be one or more of “transmitting driving information and/or sensor data to a remote system” to alert emergency services (*id.*, 6:41-53; 32:63-67); “storing data captured at a higher...sampling rate than when an event is not detected” to prevent down-sampling and loss of detail or to prevent overwriting of the detailed event data (*id.*, 7:4-9; 32:59-62); “providing feedback to a user to indicate that an event has been detected,” such that a user can confirm or deny the event (*id.*, 7:10-16), and “transferring data from...short term memory to long term memory” to prevent important event data from being overwritten (*id.*, 8:12-17; 32:41-46), for example.

Additionally, understanding the mobility of a mobile device as well as the differences in users, the inventor realized the opportunity to use the mobile device to associate driving behavior with a “driver-vehicle pair” to “ensure[] that different drivers and vehicles do not disrupt the accurate event detecting capabilities of the event detector.” *Id.*, 6:30-38. This is useful because the mobile device is not integrated to a specific vehicle like a black box, so accounting for variations in users, user devices, and the use and handling of such devices provides for more reliable

data collection. *See id.*, 10:21-26. Such functionality also allows the mobile device to evaluate each driver individually and generate a user profile (*id.*, 22:9-14) and driving score (*id.*, 10:27-30) associated with the user of the mobile device. AT-2001, ¶64.

C. Prosecution History Supports Patentability Then and Now

In a Notice of Allowance, claims 1-13 (then claims 9-21) were allowed after resolution of one non-final office action. USAA-1002, 8-15. Claims 9-11 and 13-16 (now claims 1-3 and 5-8) were rejected under §102(b) over Plante; claim 12 (now claim 4) was rejected under §103(a) over Plante in view of Breed; and claim 17 (now claim 9) was rejected under §103(a) over Plante in view of McClellan. USAA-1002, 8-14.

The claims were found allowable over the art for similar reasons that the claims remain allowable over the cited combinations asserted here. Specifically, Plante was not found to show or suggest a mobile device configured to “determine, based on the inputs received by the user interface and sensor data from the device’s sensor set, a start of a driving period during which the mobile device is removably attached to the vehicle and the vehicle is in use,...and wherein the driving information is derived without data from vehicle sensors, and the mobile telecommunications device is controlled by a downloaded application to [control

the] mobile device to detect occurrence of a predetermined event and in response take at least one predetermined action.” *Id.*, 13.

Prosecution of the ’487 patent found that “there is no driving information derived from sensor data by Plante on the mobile device itself” because “all that Plante does is to record data from the sensors. This is not processed driving information that is derived from sensor data...” *Id.*, 34. Thus, Plante was found to not disclose the device “being configured to process the sensor data during the driving period to derive driving information associated with how the vehicle is driven[,] because “as there is no processing of data on the data recorder, there can be no determination of this driving information.” *Id.*, 32-33 (emphasis in original). Rather, Plante “transfer[s] recorded data to a server for processing ...” *Id.*, 33.

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

1. Curry *et al.* – Exhibit USAA-1005²

Curry discloses “[a] system and method for preventing cell phone use while driving.” USAA-1005 at Title. In this regard, “[a] computing device [other than the mobile device] in communication with [a] data server [is provided that] can be used

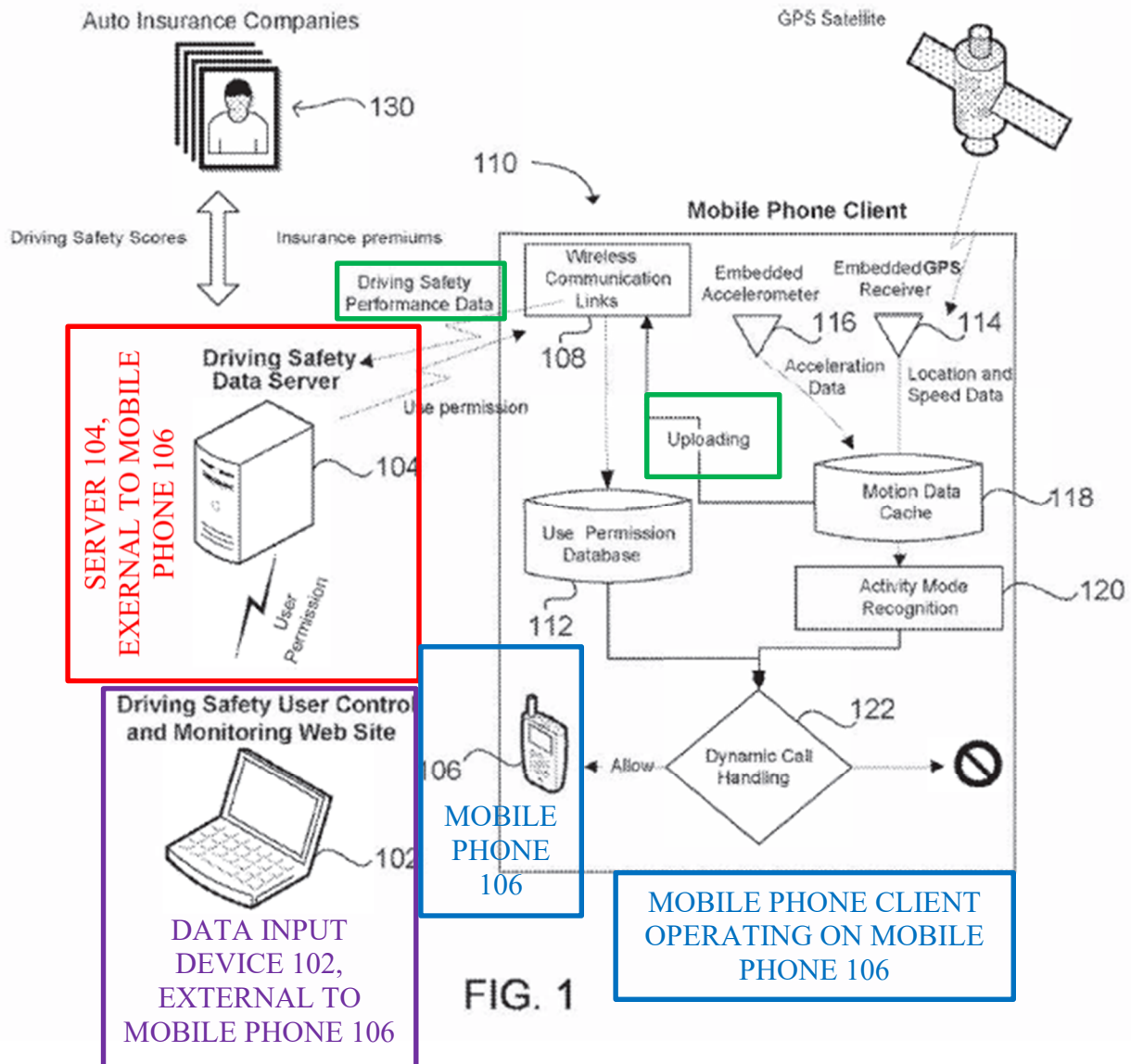
² Further support for the positions taken herein regarding Curry may be found in Wilson’s Declaration, AT-2001 at ¶¶ 66-79.

to select timing and location information in which use of the [mobile] device is permitted or restricted.” *Id.* at 3:16-18; FIG. 1.

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

Further, raw sensor data 114, 116 from the motion data cache 118 is uploaded (in green) in raw form as “driving safety performance data” to a remote, centrally-managed server 104 (in red) for processing, evaluation, statistical analysis, and scoring. *Id.*, 7:8-10; 11:15-18. *See also id.*, FIG. 2 (208, 212, 218); 13:1-2; FIG. 3 (324); 14:19-21. Other than sending the raw motion data to the server, Curry’s mobile phone uses the raw data only to estimate context (e.g., standing, walking, driving) of mobile phone use using pre-set permissions from the server. *Id.*, 9:1-3, 5-11, 31-33. Curry’s mobile phone does not perform further processing, evaluation, statistical analysis, or scoring, especially as concerns how the user is driving the

vehicle or for detecting a driving incident. Importantly, a phone call is not a driving incident, as previously discussed. *See* AT-2001, ¶¶67-68.



USAA-1005, FIG. 1.

FIG. 2 and specification makes clear that any processing, evaluation, statistical analysis, or scoring is performed at Curry's remote, centrally-managed

server (in red). USAA-1005, FIG. 2 (below); 3:24-4:6 (server uses model in server to determine speeding, abnormal acceleration and deceleration, taking sharp turns); 7:8-17 (driving safety evaluation module on server performs statistical analysis); 8:5-18 (server uses its own interface to collect use permission data); 9:23—10:5 (raw motion data and activity mode estimation sent from mobile phone to server for safety score evaluation); 11:3-18 (server post-processes using previously collected motion data); 13:1-19 (motion data sent to server for calculating safety score); 14:17-26 (“driving safety information” is defined as collected data from motion data cache and activity mode recognition module, which is sent to the external server); 16:7-22 (unsafe driving is determined and penalized by the server); 17:24—18:3 (driving safety data are communicated to server to allow usage of the phone to be monitored). AT-2001, ¶69.

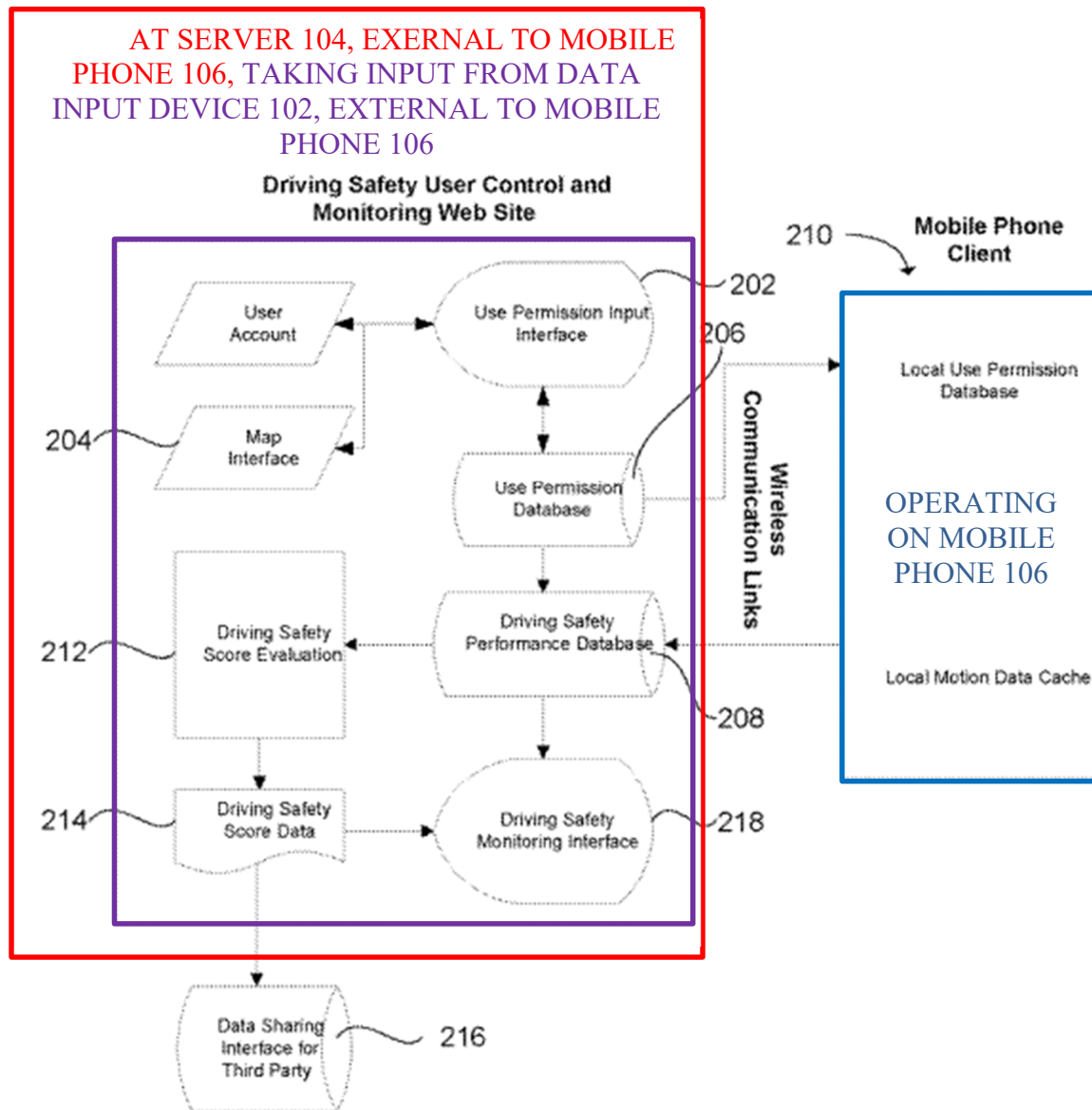


FIG. 2

USAA-1005, FIG. 2.

Curry's mobile phone, handling only raw motion data from accelerometer and GPS sensors and pre-set user permission data from an external server, and determining only an estimate of whether a vehicle is driving, thus does not disclose, teach, or suggest a mobile device (1) determining the start (duration or end) of an actual driving period, (2) processing sensor data from a sensor set to derive driving information associated with how the vehicle is driven throughout that driving period, or (3) storing a selection of such driving information. *Id.* at ¶71.

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

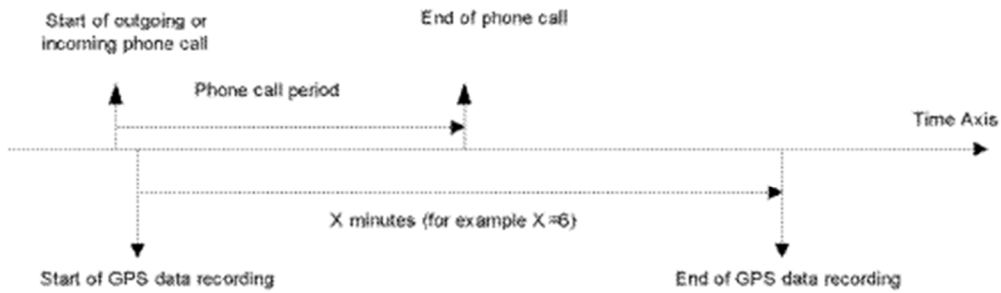


FIG. 4

USAA-1005, FIG. 4.

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

Because Curry addresses the problem and dangers associated with distracted driving caused by mobile device usage, it need not (and does not) disclose monitoring how a vehicle is being driven at all times. Curry does not disclose any data collection unrelated to the phone call, and specifically does not disclose any time period for data collection, other than a period starting with a phone call. 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. Curry's mobile device merely stores

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

As applied to the claims of the '487 patent, Curry suffers from similar shortcomings as were found for Plante in prosecution: (1) Curry's mobile device does not determine a start of a driving period, or a driving period, as required by the claims; (2) Curry's mobile device only records raw sensor data, and does not process driving information; (3) any analysis that Curry's mobile device performs regards phone call handling that depends only on *whether* (not how) a vehicle is driving, as estimated from raw sensor data, and a preset permission, both untethered from driving information; (4) Curry's mobile device does not detect a predetermined event nor provide feedback to the driver regarding the predetermined event; and (5) the phone call of Curry is not a predetermined event as required by the claims. AT-2001, ¶79.

2. Rabu – Exhibit USAA-1013³

³ Further support for the positions taken herein regarding Rabu may be found in Wilson's Declaration, AT2001, ¶¶80-92.

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

Rabu determines holder status by measuring orientation angle of the PMD in a holder. USAA-1013, 5:5-9. Once the measured orientation angle indicates a docked position, Rabu determines a frequency spectrum associated with the holder motion, (*id.*, 4:29-33), and thereafter determines a “mode of operation” for the PMD based on that motion status. *Id.*, 5:53-55; FIG. 5. In contrast to the ’487 patent’s location determination, Rabu relies on frequency analysis to determine small movements of a PMD for distinguishing its mode of operation. *Id.*, 2:65-3:1; *compare to* USAA-1001 at 16:15-24. While Rabu is concerned with “the difference

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

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

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

how a vehicle is being driven based on comparisons of “driving” frequency spectra. AT-2001, ¶86.

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

Further, Rabu lacks reliability in determining holder status and motion status and, thus, has difficulties in determining its modes. This is because Rabu’s determination of both holder status and motion status is based only on a comparison to stored data at a particular time. *See, e.g.*, USAA-1013, 8:27-37; 9:14-24; 9:35-10:7. Because Rabu merely determines status of the holder at a particular time, it

does not determine an exact time when status changes, only that it had changed between two points in time. AT-2001, ¶89.

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

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

improved mode determination would have been low for a POSITA attempting to implement the features of the '487 claims. *Id.*, ¶¶91-92.

3. Forstall *et al.* – Exhibit USAA-1028⁴

Forstall describes an early iPhone system for aiding a user in map-assisted navigation using a mobile device and estimating physical position on the map based on sensed data, particularly where and when positioning data is unavailable, through the use of “dead reckoning” – i.e., using sensor data to measure movement of the device from a previously fixed location to determine its current location. USAA-1028, [0062]. Forstall provides no disclosure, teaching, or suggestion of the determination of the start of a driving period or deriving driving information associated with how a vehicle is driven from the start of and throughout the driving period, the storing of a selection of any such driving information, or the processing of driving information to generate a driving score associated with a particular driver, detecting the occurrence of any predetermined event, or taking any action in response to the detection of any such predetermined event.

⁴ Further support for the positions taken herein regarding Forstall may be found in Wilson’s Declaration, AT-2001, ¶¶93-94 and 178-195.

4. Langle – Exhibit USAA-1029⁵

Langle posits that accelerometers/compasses on a mobile phone may be used to classify driving habits as safe or unsafe. USAA-1029 at 1. However, Langle provides no disclosure, teaching, or suggestion of any system, device, or application of such classifications, much less of any system, device, or application for logging driving information from the start of a driving period or of taking any action in response to detection of any predetermined event. Langle merely identifies various graphed curves showing measured g-forces over time, positing that various characteristics of those graphs may reveal instances of “unsafe” acceleration or deceleration to make a binary assessment of driving as either safe or unsafe. *See id.*, 2-3. Langle recognizes that “‘safe’ is a relative term, so Langle only assumes that ‘safe’ driving and ‘unsafe’ driving have measurable differences in acceleration.” *Id.*, 2.

Further, Langle discloses its own shortcomings as not providing for “calibration of braking distance, lane changes, and reliable transformation of phone orientation with respect to trajectory of the vehicle” (*id.*, 1), where “using this data...[the distinction between safe and unsafe] is not so clear for accelerations” and

⁵ Further support for the positions taken herein regarding Langle may be found in Wilson’s Declaration, AT2001, ¶¶95-96 and 185-195.

a “second integration [of acceleration] yields [only] a rough estimate of distance” (*id.*, 2).

IV. GROUND 1A: CLAIMS 1, 2, 5, 9, AND 11-13 ARE PATENTABLE OVER THE COMBINATION OF CURRY AND RABU

Under Ground 1A, Petitioner contends that claims 1, 2, 5, 9, and 11-13 are unpatentable as obvious over Curry in view of Rabu. Pet. at 6-39. A patent claim is unpatentable under 35 U.S.C. §103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious to a POSITA at the time the application was filed. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). A determination of obviousness cannot be based on “mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F. 3d 1364, 1380 (Fed. Cir. 2016). “[I]nstead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness” based on a combination of references. *See In re Nuvasive, Inc.*, 842 F.3d 1376, 1382 (Fed. Cir. 2016); *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). The requirement of a reason to combine cited references is a safeguard against hindsight bias, which is characterized by the “temptation to read into the prior art the teachings of the invention in issue.” *KSR*, 550 U.S. at 421 (quoting *Graham*, 383 U.S. at 36).

“In an [IPR], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid*

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

A. Claim 1 is Patentable Over the Combination of Curry 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 of the 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 the citations

⁶ Patent Owner adopts the same numbering convention for the particular elements of Claim 1 as Petitioner for the convenience of the Board.

discuss logging driving information as required by the claims. *See* Pet. at 19-21. “Driving information” as required by the claims, and as discussed above, includes “location, speed, and acceleration of the vehicle *associated with how the vehicle is driven*.” This driving information may include detected driving events, including driving anomalies. *Supra*, Section II.C; *see also* AT-2001, ¶97.

Such driving information may be utilized for emergency services or in the same way data from a vehicle’s black box would be utilized. USAA-1001 at 2:67—3:1; 2:19-51. The mobile device must be able to detect events by analyzing sensor data from the mobile device, without the need for sensor data from the vehicle’s sensors. *Id.*, 31:62-63.

Petitioner’s citations do not demonstrate this same functionality. For example, Petitioner states that “[t]he Curry-Rabu phone includes client 110 (downloaded from server 104), which enables determination of whether an associated vehicle is being driven.” Pet. at 20 (emphasis added). Yet, “whether an associated vehicle is being driven” is not “*how* a vehicle is being driven,” which is what serves to provide the derived “driving information” of the claims. *See* USAA-1001, claim element 1.7. Further, Petitioner cites to Curry to erroneously purport that “client additionally enables Curry-Rabu phone to process ‘raw data’ from a driving period to derive driving information associated with a user’s driving behavior.” Pet. at 20. *See* AT-2001, ¶98.

There is nothing in Petitioner’s cited portions of Curry that indicates that any raw data is “from a driving period to derive driving information associated with a user’s driving behavior,” and certainly not according to the claims. Petitioner cites to a wide swath of information in Curry (USAA-1005 at 8:20—9:33) but never points out what portion of this disclosure indicates that Curry’s phone “derives driving information associated with a user’s driving behavior.” This cited portion of Curry relates only to collecting raw data to determine “user activity mode recognition,” that is, the “context of mobile phone use.” e.g., whether a phone is being used “while driving, walking or remaining still” at the time of a phone call. *Id.*, 8:20—9:20; 11:15-18. *See* AT-2001, ¶99.

Petitioner further mis-cites claim element 1.1 as “log[ging] driving *activity* associated with a vehicle” (Pet. at 20), apparently to inaccurately mold Curry’s “*activity* mode recognition” to the claims. Petitioner further purports that Curry discloses “us[ing] the derived driving information to generate a ‘driving safety score’ for the user,” but it is clear that the mobile phone of Curry does not “use the derived driving information to generate a ‘driving safety score.’” Rather, Curry’s phone, at best, “store[s] raw data...for a user activity mode recognition program,” while Curry’s “driving safety data server 104” (off the phone; see USAA-1005, FIG. 1) displays data “through an interactive user control website” (off the phone; see *id.* at FIG. 1, element 102) “to enable visualization of possible violations of mobile

phone use or unsafe driving behavior....” *Id.*, 9:23-28. Moreover, even if “speeding, abnormal acceleration and sharp turns” can be said to be “driving information,” this determination is clearly done off of Curry’s phone. *See id.*, FIG. 1; FIG. 2. *See* AT-2001, ¶100.

Further, because no driving information is determined by Curry’s mobile phone (*see* USAA-1005, FIG. 1, “Uploading” raw data from “Motion Data Cache 118” and transmitting raw data as “Driving Safety Performance Data” to Driving Safety Data Server 104;” *see also id.*, FIG. 2), it is Curry’s server that actually logs driving information, not Curry’s mobile phone. *See* USAA-1005, FIG. 2, 13:1-19. Further, Curry’s description of its FIG. 3 does not help Petitioner’s argument, as it discloses a collection of raw sensor data merely for “estimat[ing] the type of activity” (*id.*, 27-33) “to allow or disallow users to receive or make a call, text a message, ...or use other components...on a ...a mobile phone” (*id.*, 14:5-8). *See* AT-2001, ¶101.

While Petitioner purports that Curry’s mobile phone calculates a score (Pet. at 20), Curry never discloses such, but makes clear that Curry’s server does all post-processing related to scoring. *See* USAA-1005 at 9:23-28; 11:7-10; 12:19—13:19; 14:17-23; FIG. 2. “The risky behaviors of talking while driving or texting while driving may not be identified in real-time due to limited data, but the post-processing

technique can deliver high-confidence estimation results. *Id.*, 16:13-18. *See* AT-2001, ¶102.

[1.3] a user interface;

Claim element [1.3] requires “a user interface” of the mobile phone. USAA-1001 at 31:43-48. Petitioner, however, repeatedly cites to the user interface of the server, not the phone. For example, Petitioner cites to Curry at 8:5-18, which references a “graphical user interface” of “data input device,” which is the remote server. Further, Petitioner cites to Curry at 21:2-25 which again refers to the “graphical user interface” of server 104. USAA-1005 at 9:23-28; 10:2-5. The user interface of the server does not satisfy [1.3]. AT-2001, ¶104.

[1.6] the mobile telecommunications device configured to: determine, based on the inputs received by the user interface and sensor data from the device’s sensor set, a start of a driving period during which the mobile device is removably attached to the vehicle and the vehicle is in use;

Curry and Rabu, alone or in combination, does/do not teach, suggest, or render obvious all of the elements of claim element [1.6]. At no point does Curry disclose or suggest the determination of “a start of driving period.” Rather, as Petitioner concedes, Curry merely describes two modes: (i) a communication mode that allows for normal phone usage, and (ii) a monitoring mode that restricts calling, texting, and or software use on the phone to promote driving safety. Pet. at 12. The sole input

on which Curry relies to meet [1.6], however, is the receipt (or attempted placement) of a phone call or text message. AT-2001, ¶¶105-106.

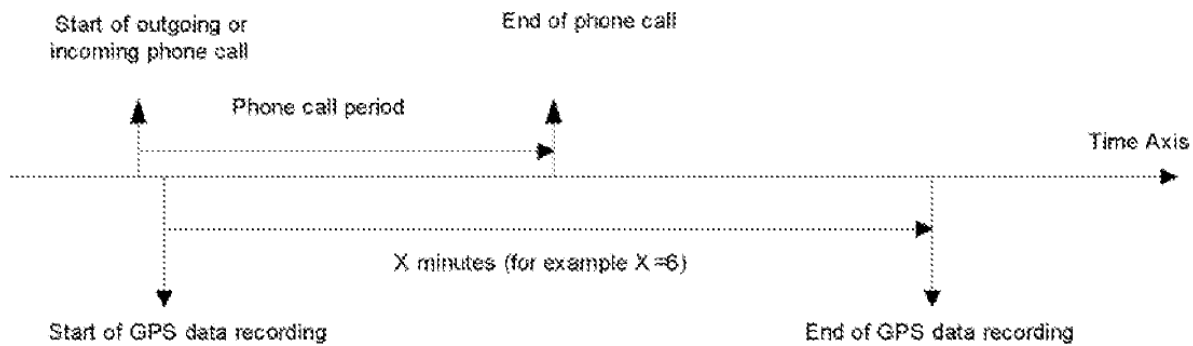


FIG. 4

USAA-1005, FIG. 4.

As seen in FIG. 4, when the vehicle is being driven, the start of an outgoing or incoming phone call starts the recording of raw data from the mobile device's sensors, which raw data is recorded for some pre-set duration. *Id.* at 16:7-13. Based on this raw data, Curry's phone may estimate its activity status as "driving, walking, remaining still, or unknown...." USAA-1005 at 10:16-26; *see also id.* at 16:13-22. "If the status of the mobile phone user is recognized as driving, the mobile phone can automatically switch to the GPS navigation mode to prevent the use of communication capabilities...[while] if the mobile phone user is recognized as not driving, the mobile phone can [operate in] communication mode." *Id.* If Curry's activity status cannot be sufficiently estimated due to insufficient data or a change

in activity, Curry turns to its remote server to post-process data for higher confidence in the estimation results. *Id.*, 16:13-22.

Importantly, because the data recording period is initiated by the start of an outgoing or incoming phone call (or text message), Curry does not determine the “start of a driving period,” because the triggering event (the phone call or text) does not occur at the start of the period in which the vehicle is being driven. *See, e.g.*, USAA-1001 at 2:6-8 (defining the driving period as the period in which the vehicle is being driven by a driver); 3:20-22 (same). Instead, Curry, at most, discloses a call handling program that is limited to handling a call/text at the time the call/text is received or made. It is clear from the disclosure of Curry that the role of the recording is to collect data for later processing to analyze driver safety at the remote server, not the phone. The recording period does not start a “driving period” as claimed; it merely discloses the start of a recording period, which is not the entire period in which the vehicle is being driven as required by the claims. USAA-1005 at 11:3-7; 16:8-12; FIG. 2. *See* AT-2001, ¶¶106-108.

Further, because Curry’s recording period is a finite time period with no association to a driving period (*see, e.g.*, USAA-1005 at 16:10-13 and 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 the driving period.⁷ Instead, Curry simply records raw sensor data for some arbitrary period of time that is untethered to the claimed driving period. *Id.*, 16:7-13. As such, not only does Curry not determine the start of a driving period, Curry discloses no way to determine the entirety of the driving period. AT-2001, ¶109.

Combining Curry with Rabu fails to resolve these deficiencies. As noted above, Rabu has nothing to do with the determination of the start of a driving period. Rather, Rabu determines a holder status and a holder motion status for a mobile device, using the device's orientation angle and frequency spectrum, and from those statuses, the mode the device may be in (e.g., standing still, walking, or driving). USAA-1013 at 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

⁷ Although not expressly claimed, as the driving period claimed by the '487 patent necessarily includes only the period in which the vehicle is being driven, the end of that driving period must also necessarily be determined. *See, e.g.*, USAA-1001 at 20:23-38; FIG. 4a.

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

[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 of the elements of claim element [1.7]. Claim element [1.7] requires the mobile device to process raw data from its sensor set to derive driving information associated with how the vehicle is being driven. USAA-1001 at 31:57-59. Petitioner attempts to meet this claim element in Curry by focusing on the mobile device's determination of "whether" a vehicle is being driven, not *how* the vehicle is being driven. Pet. at 20. Nowhere in Curry is the derivation of "driving information" as claimed by the '487 patent disclosed or suggested. AT-2001, ¶111.

Further, as discussed above, Curry does not disclose or suggest that processing according to the claims is performed on the mobile device itself. Curry's processing on its mobile phone merely determines whether to allow a phone call based on a pre-set user permission and an estimated activity mode. USAA-1005 at 3:2-23. Contrary to Petitioner's expert's assertion, to the extent that any processing is disclosed in Curry, a remote server processes raw data sent to it by Curry's mobile phone. *See, e.g., id.*, FIG. 1 (showing the uploading of raw data from the motion data cache 118 and transmitting raw data as driving safety performance data to driving safety data

server 104); FIG. 2 (same); 3:24—4:5 (explaining that the mobile device’s mobile data cache can transmit raw sensor data to a remote data server so that the server can determine a driver safety statistic dependent on certain user behaviors). This claim element clearly requires that the phone process data to derive “driving information.” As that is done only on its remote server, Curry does not teach or suggest this element. AT-2001, ¶¶112-113.

Combining Curry with Rabu fails to solve these problems. Rabu merely determines a holder status and a holder motion status for a mobile device, using the device’s orientation angle and frequency spectrum while in a holder, respectively, and from those statuses, the mode the device may be in (e.g., standing still, walking, or driving). USAA-1013 at 7:31-60; FIG. 5. Rabu’s unreliable methodology of relying on a device’s frequency spectrum to determine whether the device is located in a moving vehicle does not determine when a driving period began; instead, it simply determines whether the device is held in a moving vehicle. *See, e.g., id.*, FIGs. 8 and 9 (determining whether the device is in a moving vehicle and operating the device in accordance with that determination). As such, Rabu fails to address the deficiencies in Curry. AT-2001, ¶¶114-115.

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 of the elements of claim element [1.8]. Claim element [1.8] requires that

the mobile device store a selection of the derived driving information to the memory of the phone. USAA-1001 at 31:60-61. Petitioner contends that Curry stores information derived from processed sensor data (“selection of driving information”) to memory (e.g., motion data cache 118, local memory) (“memory”) prior to transmission (e.g., to driving safety data server 104). Pet. 31, *citing* USAA-1003, ¶146. 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]. USAA-1005, FIG. 1; 8:30—9:33; 11:15-18. *See* AT-2001, ¶¶116-117.

As Curry further points out, “[d]ata from the motion data cache 304 and the activity mode recognition module 306 can be transmitted to a local driving safety performance database 324. The collected driving safety information [i.e., here, only raw data] can be sent back to the server 322 through mobile communication links 320.” *Id.*, 14:19-23. Further, as discussed above, to the extent that Curry discloses the derivation of driving information, Curry describes this as post-processing by the remote server, not by the mobile device. *Id.*, 11:15-18; 16:7-18. Moreover, combining Rabu with Curry does not further disclose the storage of a selection of driving information to the memory of the mobile device for the reasons stated above. AT-2001, ¶¶118-119.

[1.10] 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.

Curry and Rabu, alone or in combination, does/do not teach, suggest, or render obvious all of the elements of claim element [1.10]. Petitioner incorrectly argues that “Client 110... enables the phone to process sensor data from a driving period *to derive information associated with a user’s driving behavior.*” Pet. at 34. However, Curry does not disclose that Curry’s phone has features that allow it to “derive information associated with a user’s driving behavior.” Petitioner cites to Curry at 7:5-29, but that portion of Curry makes clear that “[a] driving safety evaluation module [on Curry’s server] can be used to perform a statistical analysis on collected raw driving data.” USAA-1005 at 7:13-14; *see also id.*, FIG. 2, 212. This “collected raw driving data” is the “driving safety data [that] can be transmitted to a centrally managed data server through wireless communication links” that Curry introduces at 7:8-10. AT-2001, ¶120.

Curry limits its definition of “unsafe driving behavior” as “talking on or texting with mobile phones while driving” (USAA-1005, 7:7-8), which has nothing to do with actual driving. Client 110 runs an activity mode recognition program 120, 306 to determine the user’s activity (e.g., driving, walking, standing still) at a moment in time. *Id.*, 9:5-11; *see also id.*, FIG. 1, FIG. 3. Curry’s client 110 uses that activity

determination to handle phone calls by dynamic call handling program 122, 308. See *id.*, FIG. 1, FIG. 3. Client 110 can receive data from sensors 114, 116, 314, 316 and save raw data from those sensors into motion data cache 118, 304. *Id.*, 13:27-31, FIG. 1, FIG. 3. It can then estimate the user's activity from that raw data. *Id.*, 13:31-33. And then determine whether to allow a call to be made or answered. *Id.*, FIG. 1, 112, 120, 122; FIG. 3, 306, 308, 318. See also *id.*, 8:21-9:33; AT-2001, ¶121.

Petitioner then asserts that “[d]erived driving behavior information is stored in the Curry-Rabu phone.” Pet. at 34. However, because anything akin to the driving information of the claims is derived on Curry's server, storage of this information is only on Curry's server. See USAA-1005 at FIG. 2, 208, 212, 214; 9:22-33; 13:1-14.

Petitioner attempts to endow Curry's phone with more features than Curry discloses to make up for gaps in Petitioner's claim mapping, when the purpose of Curry is to “prevent talking while driving.” *Id.*, 10:27-30. While Curry's phone determines a mode, it is Curry's server that determines any unsafe driving behaviors from raw data sent to the server by Curry's phone. *Id.*, 13:1-19; FIG. 2. See AT-2001, ¶¶122-123.

In order to overcome this clear deficiency, Petitioner posits that the “predetermined event” can be “an incoming phone call or text message.” Pet. at 36. This, however, creates an insurmountable problem for Petitioner's analysis, because Petitioner has relied on the incoming phone call of Curry for two separate claim

elements. First, for the “input received by the user interface” to start the driving period of claim element [1.6]. Pet. 24, *citing* USAA-1005, 6:5–22; 8:5–11; 7:30–8:33; 15:7–22. Second, for the “predetermined event” of claim element [1.10]. *Id.* at 35–36, *citing* USAA-1005, 16:7–22. Claim 1, however, clearly sets forth two separate claim elements and the specification supports each of these elements being separate and distinct. USAA-1001, FIG. 4a.

Assuming *arguendo* that a phone call can be inserted into the FIG. 4a process for both “inputs received by the user interface” of [1.6] and “a predetermined event” of [1.10], the process would not work. For example, if a phone call automatically “register[ed] the start of a driving period” in step 42 (USAA-1001 at 18:67—19:1), sampling and recording of sensor data and generating of driving information would start in step 44 (*id.*, 19:17-20). Following that, sensor data and driving information would be analyzed in step 46. *Id.*, 19:20-22. From this analysis, the application would determine whether an incident is detected at step 48. *Id.*, 19:23-25. At the detection of an incident, sensor data and driving information would be securely stored in protected storage at step 50. *Id.*, 19:25-28.

Within this process, it would simply make no sense for the phone call to serve as the detected event in step 48 while also starting the driving period for sampling and recording sensor data and generating driving information in step 44. At the time of the phone call, sampling and recording of sensor data would not have started.

Sampling and recording start only after the registration of a driving period caused by a combination of user input(s) and the availability of sensor data, according to claim element [1.6]. This recording would not have recorded the phone call in step 44 because recording started after the phone call. Thus, a second phone call would be needed to detect a phone call in step 48. USAA-1001 at Fig. 4a. Yet, Petitioner only cites to one phone call for both claim elements [1.6] and [1.10].

Further, the use of one element in the prior art satisfying two claim elements has been prohibited by the PTAB. *See* IPR2015-00613, *Hopkins Manufacturing Corporation v. Cequent Performance Products, Inc.* (Paper 9, August 7, 2015). In *Becton, Dickinson and Co. v. Tyco Healthcare Gr., LP*, 616 F.3d 1249 (Fed. Cir. 2010), the Federal Circuit held that “[w]here a claim lists elements separately, ‘the clear implication of the claim language is that those elements are ‘distinct component[s]’ of the [claimed] invention.” This is particularly true where the specification, as is the case here, “confirms” that the separated claim elements are in fact separate elements.

B. Petitioner Lacks Sufficient Motivation to Combine Curry and Rabu

1. The Combination Would Provide No Reasonable Expectation of Success

For a proposed combination of references to establish obviousness of a claimed invention, a POSITA must have a reasonable expectation that the

combination would be successful, and evidence showing that there is “no reasonable expectation of success may support a conclusion of nonobviousness.” M.P.E.P. §2143.02 (*citing In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA (1976))). Here, Petitioner’s proposed combination of Curry and Rabu ignores what any POSITA would have recognized as fundamental flaws in Rabu that would have made its use impracticable, if not impossible, such that a POSITA would have had no reasonable expectation of success in combining Rabu with Curry at the time of the invention. Lacking any reasonable expectation of success in making that proposed combination of Curry and Rabu, no claim may be found obvious over that combination. AT-2001, ¶125.

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. at 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 fairly low probability of success, and created significant technical hurdles, the solutions to which are nowhere evidenced in either Curry or Rabu. AT-2001, ¶126.

In attempting such a combination, a first issue would be to address what “success” would mean in the context of a combined Curry-Rabu system. Curry discloses a very specific method for preventing cell phone use while driving, and a

POSITA would have understood that the method must be able to provide an accurate assessment of the activity modes of walking, running, driving, and stationary. USAA-1005 at 17:1-23. Curry discloses, and a POSITA would have understood, that selecting the wrong activity mode “can result in incorrect disruption of cell phone service which can lead to unpleasant user experiences and further limit system deployment.” *Id.*, 10:32-11:2. Thus, a POSITA would have understood that the cost of choosing the incorrect activity mode would be significant, and the more modes one introduced, the more opportunities there would have been for failure. AT-2001, ¶127.

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

In particular, Rabu requires that the “determination [of the activity mode be] made based on determining a frequency spectrum associated with the holder motion and comparing that to frequency spectra of known motions.” USAA-1013 at 7:26-28. However, Curry’s observation of distinct frequency spectrums appears to be based on a single sample “measured taking a seat to a passenger” and with the sensor attached “by the belt on a subject’s waist.” For a POSITA to have achieved success incorporating Rabu’s teachings into Curry’s system and avoiding “unpleasant user experiences,” the characterization of the “driving spectra” would have been required to be precisely quantified and evaluated across many different factors, including:

- **Location of the Phone** – Whether the phone is attached to a belt, loose in a shirt pocket, on a seat or the vehicle’s dash, or on some sort of mounting device.
- **Mounting Type** – Whether the phone is attached to a stalk that would introduce additional spectral features, sitting on a flat surface (dash, console) that would provide vertical but not horizontal stability, on a car seat, on the steering wheel (introducing rotational motions), in a cup holder, in a mount, or something relatively flexible like an air vent. Each of these mountings would amplify certain frequencies while dissipating others.

- **Vehicle Type** – A luxury car with a large wheelbase has a very different spectrum than a sports car, a small car, or a truck. Tires and wheels are also important, including allowing for winter or summer tires, and the presence of tire chains would also need to be considered.
- **Maintenance Status of Vehicle** – Inadequate, defective or worn shock absorbers or other suspension components will change spectral elements, as will varying tire pressure.
- **Vehicle Load** – Additional weight can modify the motion spectra of a vehicle, while trailers are especially apt to modify motion spectra.
- **Road Surface** – A car on a smooth road will produce a very different spectra from a car on a road with cracks and potholes or a car travelling on a dirt road.

AT-2001, ¶¶129-130.

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

Petitioner has failed to recognize such significant technical challenges presented by Rabu, and particularly the challenges that would have faced a POSITA in attempting the proposed combination. Weighed against this evidence, the proposed combination would have, in fact, suggest to a POSITA a very *low* likelihood of success. 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, Using the '487 Patent as a Roadmap

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

To avoid hindsight bias, the obviousness inquiry is not limited to whether the elements of the '487 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 '487 patent's logging of vehicle behavior.

Rather, Petitioner must provide, *with particularity*, rationale to combine the teachings of the cited art, *i.e.*, “whether the relevant skilled artisan had a motivation to combine pieces of prior art in the way eventually claimed in the patent at issue.” *Intercontinental Great Brands LLC v. Kellogg N. Am.*, 869 F.3d 1336, 1343 (Fed. Cir. 2017). Petitioner does not provide such rationale.

Petitioner’s rationale to combine Curry and Rabu relies on using the ’487 patent as a roadmap for reconstructing the claims based on hindsight, despite indications that the combination is fraught with problems. Petitioner asserts reasons as to why a POSITA would have been motivated to modify Curry that appear to be nothing more than a desire to provide a mobile device that meets the elements claimed in the ’487 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 ’487 patent relies on the availability of continuous sensor data to ensure that data regarding how a vehicle is being driven is captured. *See* USAA-1001 at 16:15-20; 16:48—18:32. A POSITA would not have been motivated to look to Curry to arrive at the ’487 patent’s claims because Curry intentionally limits the use of sensor data until a phone call is received or made. *See, e.g.*, USAA-1005 at 3:2-4:28; 16:7-13; FIG. 4; *see also id.* at 14:28—15:7 Although Petitioner proffers certain

explanations for rationale to combine Curry and Rabu, in no case does either reference support such combination. For example, considering the cited art as a whole, and without the benefit of hindsight, a POSITA would never have picked up Rabu in the first place, let alone picked out sections of Rabu for its teaching of determining a frequency spectrum of a phone, comparing that frequency spectrum to a database of frequency spectra to determine motion status and mode of operation, and further using such data to distinguish whether the device is docked, on a surface, being handled by a person, or located in a moving vehicle. AT-2001, ¶134.

Neither Curry nor the '487 patent would benefit from Rabu's unreliable, processor-intensive frequency analysis, as previously discussed. *See* Pet. at 15; USAA-1013 at 5:61—6:21. Further, nothing in Curry suggests that using Rabu's frequency analysis to determine holder status and holder motion status would be better than using GPS and accelerometer data at the time of a phone call such that it would make technical sense to put Curry and Rabu together to arrive at the '487 Patent. Thus, there is insufficient explanation in the Petition or Michalson's declaration as to why a POSITA would have combined the teachings of Curry and Rabu in the manner Petitioner proposes. AT-2001, ¶¶135-138.

C. Claims 2, 5, 9, 11, and 13 Are Patentable Over the Combination of Curry and Rabu

Claims 2, 5, 9, 11, and 13 ultimately depend from claim 1 and incorporate the same limitations therein. Thus, for the same reasons as are set forth above, Claims 2, 5, 9, and 11 are patentable over the proposed combination.

V. GROUND 1B: CLAIMS 3 AND 4 ARE PATENTABLE OVER THE COMBINATION OF CURRY, RABU, AND BALACHANDRAN

Claims 3 and 4 ultimately depend from claim 1 and incorporate the same limitations therein. Thus, for the same reasons as are set forth above, Claims 3 and 4 are patentable over the proposed combination. The addition of Balachandran does not cure these shortcomings.

VI. GROUND 1C: CLAIMS 6-8 ARE PATENTABLE OVER THE COMBINATION OF CURRY, RABU, AND KATAYAMA

A. Overview of Katayama *et al.* – Exhibit USAA-1024

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 but also...at a time of [a risk incident].” USAA-1024, Abstract, [0009]. Katayama is prohibitively different from the '487 patent: (1) Katayama does not disclose a mobile phone; (2) Katayama is akin to a black box data recorder that is required to be electronically connected to the vehicle's sensors; and (3) Katayama requires data from the vehicle sensors. *Id.*, Abstract, [0038], [0039], [0042]-[0044], FIGs. 4-6. These

characteristics of Katayama are all in conflict with the requirements of the '487 patent.

Because of Katayama's stark differences from Curry and Rabu, a POSITA simply would not have been motivated to combine Katayama with Curry and/or Rabu for data storage details. Further, neither Curry nor Rabu disclose the need for distinguishing long-term versus short-term storage, as required by claims 6 and 7. AT-2001, ¶¶139-142.

VII. GROUND 1D: CLAIM 10 IS PATENTABLE OVER THE COMBINATION OF CURRY, RABU, AND TAMIR

Claim 10 depends from claim 1 and incorporates the same limitations therein. Thus, for the same reasons as are set forth above, Claim 10 is patentable over the proposed combination. The addition of Tamir does not cure the shortcomings of the combination of Curry and Rabu.

VIII. GROUND 2A: CLAIMS 1, 2, 12, AND 13 ARE PATENTABLE OVER THE COMBINATION OF FORSTALL, RABU, AND LANGLE2009

A. Claim 1 is Patentable Over the Combination of Forstall, Rabu, and Langle2009

Petitioner's analysis fails to establish that a POSITA would be motivated to modify Forstall with either Rabu or Langle. Moreover, even if one were to make the Petitioner's proposed combination, the result still would not disclose the claimed invention. While Petitioner argues that some of the individual elements were known

and that combining them would have yielded the claimed invention, Petitioner does not explain *why* a POSITA would have combined those elements in the claimed manner or how, *with particularity*, a POSITA would make such a combination. Petitioner's conclusory analysis repeatedly asserts that a POSITA *would* have made the Petitioner's proposed combination, but without particularity as to how the combination would be made, Petitioner is only offering that a POSITA *could* have done it, which is insufficient to show motivation to modify Forstall as proposed.

1. Petitioner Fails To Establish That A POSITA Would Have Been Motivated To Modify Forstall With The Teachings of Rabu

Forstall describes a mobile device with a GPS sensor used to determine the physical location of the device which, in turn, displays the position of the device on a digital map to aid the user in navigating to a particular destination, USAA-1028 [0058], whether used in a vehicle or walking mode. USAA-1028 [0064]. Forstall is intended to address a challenge arising from the loss of a GPS signal, by employing sensors on the mobile device to measure movement of the device from a known location (a "fix") and thus to determine the current location of the device with respect to that fix using "dead reckoning." USAA-1028 [0062-0063]. If the device loses contact with the GPS signal, the Forstall mobile device "is configured to switch into a dead reckoning positioning mode." USAA-1028 [0062]. *See also* AT-2001, ¶¶178-180.

Petitioner loosely suggests that combining Forstall and Rabu would solve Forstall's "[lack of] implementation details relating to detecting a vehicle mode" because Rabu "is focused on mode detection." Pet. at 57. Petitioner, however, provides no rational reason why a POSITA looking at Forstall would find Rabu to be appropriate for combination, including, e.g., why Rabu's use of frequency analysis of device movements would be necessary. Petitioner instead generally states that "practical solutions relating to Forstall's vehicle mode detection...are found within Rabu" without considering what those "practical solutions" represent or why they would be needed to arrive at the claimed invention. *See, generally, id.; see also* AT-2001, ¶181.

Petitioner erroneously suggests that Forstall's silence on a topic or feature somehow provides sufficient reason for a POSITA to search out Rabu. For example, Petitioner argues, "[a] POSITA would have also been motivated to seek practical solutions relating to Forstall's vehicle mode detection since its disclosure lacks implementation details relating to detecting a vehicle mode..." Pet. at 57. Petitioner merely speculates on Forstall's silence, but, based on the Federal Circuit's explanation of "rational underpinning," this speculation does not "support the legal conclusion of obviousness." *See In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006); *In re GPAC Inc.*, 57 F.3d 1579 (Fed. Cir. 1995). "The legal conclusion of obviousness cannot...resort to speculation, unfounded assumptions or hindsight reconstruction to

supply deficiencies.” *In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967). Petitioner’s speculation here violates this proposition.

Solutions to fill in gaps for missing implementation details suggested by feature similarities is not a sufficient motivation to combine. Said another way, merely asserting that the cited art is relevant to or directed to the same art or same techniques does not suffice as an articulated reason with a rational underpinning to combine the respective teachings of the cited art. *See KSR*, 550 U.S. at 418; *see also Microsoft Corp. v. Enfish, LLC*, 662 F. App’x 981, 990 (Fed. Cir. 2016) (Microsoft “gave no reason for the motivation of a person of ordinary skill [in the art] to combine [prior art references] except that the references were directed to the same art or same techniques”).

The “practical solution” alleged by Petitioner lacks support in the references themselves. Nothing in those references would suggest to a POSITA that a “mode” of weighing acceleration data, as described in Forstall, might benefit from Rabu’s disclosure concerning modifying a mode of operation of a mobile device based on how it is being used when in a moving vehicle. Here, nothing in Rabu would have suggested any modification to the Forstall method of weighing acceleration data. *Id.* While Petitioner once again attempts to justify the combination by asserting what the resultant combination could do if it were made, Petitioner’s attempt to craft a

need for a “practical solution” does not include sufficient rationale for why a POSITA would be motivated to make that combination. AT-2001 at ¶184.

2. Petitioner Fails To Establish That A POSITA Would Have Been Motivated To Modify Forstall, Whether Alone Or With Rabu, With The Teachings of Langle2009

Petitioner broadly asserts that a POSITA would be motivated to combine the teachings of Langle with Forstall because navigation systems allegedly increase the risk of accidents and would thus lead one to combine the vehicle driving classification aspects of Langle with the navigation system of Forstall. However, as discussed below, the teachings of Langle have no bearing on the navigation system of Forstall, do not mitigate any shortcomings in Forstall, and in any case Petitioner never establish with particularity how a POSITA would incorporate any of the teachings of Langle into Forstall’s navigation system. Thus, a POSITA would not be motivated to combine the Forstall navigation system (whether alone or in combination with Rabu) with Langle. AT-2001 at ¶185.

The subject matter of Forstall is enabling navigation systems on a mobile device to continue operation after loss of a GPS signal by “performing location estimation using dead reckoning.” USAA-1028 Abstract. In contrast, the subject matter of Langle involves classifying driving behavior through analysis of the shapes of curves of acceleration over time as measured by a phone to detect “safe verses unsafe braking...[and] safe and unsafe lane changes.” USAA-1029, p. 1 (Abstract).

While Petitioner attempts to tie the references together under the guise of an alleged common theme of “safety,” there is nothing in Forstall that would motivate a POSITA to look to systems and/or methods for classifying acceleration curves to somehow “improve safety” when using the Forstall navigation system or improve or address any other purported shortcomings of the Forstall navigation system. Even if there were some purported safety risks associated with Forstall, it is not evident, and Petitioner has not established, how evaluating vehicle acceleration, braking, and lane changing as discussed by Langle could address any proposed safety risk associated with using a navigation system as disclosed by Forstall, much less how this would be done. Petitioner’s rationale to combine Forstall with Langle of addressing a “safety risk” is generic and akin to stating in a conclusory fashion that the combination “would have been obvious.” *See In re Van Os*, 844 F.3d 1359, 1361 (Fed. Cir. 2017); *see also ActiveVideo Networks Inc.*, 694 F.3d 1312, 1328 (Fed. Cir. 2012) (finding expert testimony of motivation to combine “to build something better,” “more efficient, cheaper, or” something that “had more features” was generic and insufficient). AT-2001, ¶¶186-187.

Importantly, Petitioner never explains with particularity how a POSITA would modify Forstall with Langle, and specifically how the details of Langle’s classification curves would somehow be applied to Forstall’s navigation system or how those teachings of Langle would somehow improve safety in combination with

Forstall’s navigation system.⁸ Petitioner contends that Langle describes “a technique to predict accident-related risks.” Petition, 59. While Langle does describe different efforts made (with differing results) to model data from mobile phone sensors as “safe versus unsafe” driving, Petitioner fails to show in any case and with particularity what particular aspects of Langle a POSITA would have incorporated into Forstall’s navigation system that would predict any such accident-related risks. AT-2001, ¶¶189-192.

Moreover, even if a POSITA were able to discern which aspects of Langle should be incorporated into Forstall’s navigation system, Petitioner likewise fails to explain with particularity *how* Langle’s techniques would improve safety in

⁸ The Board has already repeatedly found in related IPR proceedings that Petitioner fails to establish what features or teachings of Langle would have applied to Forstall, or how the teachings of Langle would be incorporated into Forstall’s navigation system, or how any teachings of Langle would improve safety in combination with Forstall’s navigation system. *See, e.g.,* DECISION Denying Institution of *Inter Partes* Review of U.S. Patent No. 10,192,369 (IPR2023-00770, Paper 10) at 23-26 (hereinafter “the 00770 DECISION”); DECISION Denying Institution of *Inter Partes* Review of U.S. Patent No. 10,198,879 (IPR2023-00859, Paper 10) at 16-21 (hereinafter “the 00859 DECISION”).

combination with Forstall's navigation system. Petitioner argues here that "[m]obile-based navigation systems were known to increase the risk of accidents since they typically involve mounting a mobile device to a vehicle dashboard so that a user may view navigation information while driving." Pet., 59 (citing USAA-1003, ¶201; USAA-105, 1:3-8).

First of all, this is not correct. Navigation systems have generally been shown to reduce accidents (as drivers are better oriented and don't need to manage a large paper map). In fact, the citation relied on by Michalson is directed to "mobile computing products...e.g., bar code readers, PDAs, laptops, two-way pagers, mobile phones, digital cameras, mobile optical readers, vehicle radio computers, etc," USAA-1031 at [0001], specifically not mentioning navigation systems of any sort. Even here, the reference only states distraction *may* result in accidents, with no evidence provided, and no assertion that these distractions *increase* accidents, as Michalson asserts. *Id.*, [0002]. Second, just as the Board notes in the 00859 DECISION, "Petitioner...has not explained adequately how the classification of GPS speed sensor data and accelerometer data into 'safe' or 'unsafe' driving categories, by itself alone, would improve navigation driving safety in Forstall's navigation system." 00589 DECISION, 21. AT-2001, ¶¶193-194.

Given the self-described challenges in Langle to implement the mathematical modeling methods of Langle in a cell phone, and the inapplicability of the g-force

acceleration factors that could be detected by Langle to some safety aspect associated with using a navigational tool, a POSITA is left with no direction or motivation to integrate the methods of Langle into Forstall's navigational tool. AT-2001 at ¶195. Moreover, Petitioner fails to establish with the requisite particularity *how* a POSITA would integrate the methods of Langle into Forstall's navigation tool. Thus, Petitioner has failed to show that the asserted combination of references discloses deriving driving information as recited in the subject claims, and thus cannot establish obviousness of the claimed invention based on this proposed combination. *See* 00859 DECISION, 21.

3. Petitioner's Proposed Combination of Forstall, Rabu and Langle Does Not Disclose The Claimed Invention of the '487 Patent

Notwithstanding the above, even if one were to make Petitioner's proposed combination of Forstall, Rabu, and Langle, such would not result in the claimed invention of the '487 patent. Claim 1 requires that the mobile device "is controlled by a downloaded application to control the mobile device to detect the occurrence of a predetermined event." This element is wholly absent from Petitioner's proposed combination. Petitioner asserts that this element is met by that combination because "these behaviors are among a finite number of predetermined classifications described in Langle (e.g., unsafe acceleration, unsafe braking). Pet. at 71. Even if that were the case, the fact that certain driving behaviors are among a finite number

of generalized classifications of driving characteristics does not equate to a mobile device being controlled by an application, which application according to Petitioner is the navigation application of Forstall, detecting the occurrence of some predetermined event. This element is wholly absent from Petitioner's proposed combination, as well as Petitioner's analysis of that combination.

Even further, nothing in Langle, nor in Forstall or Rabu, makes any suggestion of taking "at least one predetermined action" in response to detecting "the occurrence of a predetermined event" on the mobile device, which is specifically required by claim 1. Petitioner here simply asserts that the proposed combination would necessarily include taking a predetermined action of "initiating access to emergency services," despite there being no mention of causing a mobile device to initiate any such call in response to a particular acceleration curve shape in Langle, or any other aspect or feature in either of Forstall or Rabu. Again, this element is wholly absent from Petitioner's proposed combination.

In light of the foregoing, even assuming, *arguendo*, that a POSITA would make the combination of Forstall, Rabu, and Langle as proposed by Petitioner, that combination still would not result in the claimed invention. Petitioner's combination of Forstall, Rabu, and Langle lacks sufficient justification for combining those references; moreover, even if one were to combine those references, the combination

still does not disclose the claimed invention, such that claim 1 is patentable over that proposed combination.

B. Claim 2 is Patentable Over the Combination of Forstall, Rabu, and Langle2009

Claim 2 depends from claim 1 and incorporates the same limitations therein. Thus, for the same reasons as are set forth above, claim 2 is likewise patentable over the proposed combination.

C. Claims 12 and 13 Are Patentable Over the Combination of Forstall, Rabu, and Langle2009

Claims 12 and 13 depend from claim 1 and incorporate the same limitations therein. Thus, for the same reasons as are set forth above, claims 12 and 13 are likewise patentable over the proposed combination.

IX. GROUND 2B: CLAIMS 3 AND 4 ARE PATENTABLE OVER THE COMBINATION OF FORSTALL, RABU, LANGLE2009, AND WARREN

Claims 3 and 4 depend from claim 1 and incorporate the same limitations therein. Further, Balachandran fails to cure the deficiencies discussed above for the Forstall-Rabu-Langle combination, such that for the same reasons as are set forth above, claims 3 and 4 are likewise patentable over this proposed combination.

X. GROUND 2C: CLAIMS 6-8 ARE PATENTABLE OVER THE COMBINATION OF FORSTALL, RABU, LANGLE2009, AND KATAYAMA

Claims 6-8 depend from claim 1 and incorporate the same limitations therein. Further, Katayama fails to cure the deficiencies discussed above for the Forstall-Rabu-Langle combination, such that for the same reasons as are set forth above, claims 6-8 are likewise patentable over this proposed combination.

XI. GROUND 2D: CLAIMS 5, 9, AND 11 ARE PATENTABLE OVER THE COMBINATION OF FORSTALL, RABU, LANGLE2009, AND WARREN

Claims 5, 9, and 11 depend from claim 1 and incorporate the same limitations therein. Further, Warren fails to cure the deficiencies discussed above for the Forstall-Rabu-Langle combination, such that for the same reasons as are set forth above, claims 5, 9, and 11 are likewise patentable over this proposed combination.

XII. GROUND 2E: CLAIM 10 IS PATENTABLE OVER THE COMBINATION OF FORSTALL, RABU, LANGLE2009, AND TAMIR

Claim 10 depends from claim 1 and incorporates the same limitations therein. Further, Tamir fails to cure the deficiencies discussed above for the Forstall-Rabu-Langle combination, such that for the same reasons as are set forth above, claim 10 is likewise patentable over this proposed combination.

XIII. CONCLUSION

USAA's Petition fails as Petitioner cannot show, and has not shown, that the claims of the '487 patent are obvious in light of the cited references. Accordingly,

Patent Owner Auto Telematics Ltd. respectfully requests that the Board deny USAA's Petition and find all of the challenged claims patentable.

January 30, 2024

Respectfully submitted,

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

Pursuant to 37 C.F.R. § 42.24, Patent Owner Auto Telematics Ltd., certifies that, based on the word count of the word processing application used to prepare this paper, the number of words in this Patent Owner Response is 13,404. This word count does not include the items that may be excluded from the count under 37 C.F.R. § 42.24(a) including the table of contents, table of authorities, list of exhibits and this certificate.

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CERTIFICATE OF SERVICE

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

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