

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 PRELIMINARY
RESPONSE PURSUANT TO 37 C.F.R. §42.107**

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

I. INTRODUCTION

A dispute in a UK county court over the cause of a minor traffic accident led to the conception of the inventions claimed in the family of patents in which the ’487 patent is included. Initially, the inventors developed a mobile device application that simply recorded video of a user’s vehicle journey in a rolling loop while also determining and recording other useful information such as time of day, speed and GPS position (this latter information converted into a trace of the vehicle’s journey on a map). This application became known as the Witness App. Subsequently, a new application – Witness Pro – was developed allowing recordings of additional aspects of the vehicle’s journey recorded in a rolling loop and uploaded to a central server. Soon thereafter, a smartphone-based insurance telematics product was developed and offered to insurance companies in the UK as a cost-effective alternative to traditional vehicle insurance policies.

The ’487 patent describes methods and systems for logging driving information associated with a vehicle when driven. In one aspect, a mobile

telecommunications device is provided that may be adapted for installation to a vehicle and configured to log driving information associated with that vehicle. The mobile device is arranged to register the start of a driving period during which the mobile device is installed to the vehicle and the vehicle is being driven. 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. A selection of that driving information is then stored to the mobile device.

II. SUMMARY OF ARGUMENTS

As set forth in detail below, the Board should not institute an IPR because Petitioner cannot show, and has not shown, that the claims of the '487 patent are obvious. More particularly, with reference to Petitioner's Ground 1A: (i) the cited references fail to teach or suggest all elements of the claims; (ii) Petitioner has misconstrued the differences between the claims of the '487 patent and the cited references and has provided insufficient rationale for why a POSITA would be motivated to combine them, and (iii) Petitioner's rationale to combine them is based on impermissible hindsight.

Likewise, with reference to Petitioner's Ground 2A: (i) the primary reference relied upon is wholly unrelated to, and discloses no features of, the claims of the '487 patent; (ii) Petitioner again has provided insufficient rationale for why a POSITA would be motivated to combine the cited references; and (iii) even if one

were to make the combination as proposed by Petitioner, the result would not yield the claimed invention.

III. THE '487 PATENT

The '487 patent includes one independent claim, which 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 31:41-67. The dependent claims claim a number of other elements of the invention including the configuration of the mobile device to permit a user to confirm or deny 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 written to short term memory in accordance with a pre-determined sequence in order to conserve memory space, and processing driving information to generate a driving score associated with a particular driver.

USAA-1001 at 32:4-62.¹

¹ As the prior art references on which Petitioner relies do not render obvious or otherwise invalidate the sole independent claim (Claim 1), and any additional references relied on in its obvious assertions as to the remaining dependent claims (Claims 2-13) similarly fail, Patent Owner will focus its arguments on Claim 1. Patent Owner reserves the right to raise any additional arguments as to the validity of the Challenged Claim if an IPR is initiated by the Board.

Claim 1 requires that the mobile telecommunications 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.*” USAA-1001 at 31:52-54 (emphasis added). The invention’s ability to determine the start of a driving period is critical to the functionality of the invention.

According to a first aspect of the present invention there is provided a mobile telecommunications device adapted for installation to a vehicle and configured to load driving information associated with the vehicle when driven . . . *[wherein] the mobile device [is] arranged to execute the downloaded application to control the mobile device to: register the start of a driving period during which the mobile device is installed to the vehicle and vehicle is being driven by a driver;* process sensor data . . . during the driving period to derive driving information associated with how the vehicle is driven; and store a selection of the driving information to the memory.

USAA-1001 at 1:61-2:11 (emphasis added). The ’487 patent goes on to describe how the mobile device may be configured to determine the start of a driving period:

The initialization input may . . . be generated automatically in response to the mobile device being installed to the vehicle and/or the vehicle being driven. The initialization input may be generated automatically in response to the sensor data having pre-determined values. For example, if the sensor data reflects a detected speed above a pre-determined threshold – for example,

20 kilometers per hour – *then this can be used to trigger the start of the driving period*. Similarly if the sensor data reflects that the mobile device is held securely to the vehicle in a pre-determined position (for example via [an] adaptor) *this can also be used to trigger the start of the driving period*. To this end, the adaptor and/or the mobile device may comprise a registration module configured to register the installation of the mobile device to the vehicle and/or the adaptor. The registration module may comprise a proximity sensor to detect the proximity of the mobile device to the vehicle. The registration module may comprise a NFC (near field communication) device. *The registration module may be arranged to determine a match between the location of the mobile device and the location of the vehicle*. The match may be performed by receiving and comprising a first position input associated with the position of the vehicle and a second positioning input associated with the position of the mobile device. The registration module and/or adaptor may be a smart holster.

USAA-1001 at 3:36-61 (emphasis added).

Claim 1 also specifically provides that such information “*is derived without data from vehicle sensors*.” USAA-1001 at 31:62-63. This is critical as the invention focuses on determining driving information specific to an *individual* rather than driving information specific to a *vehicle*, which is what would be collected if driving information were based on data collected from the vehicle’s sensors.

Because multiple people may drive a single vehicle, reliance on data generated by vehicle sensors would frustrate a primary purpose of the invention of generating individual-specific driving data.

The claimed invention further requires that the mobile telecommunications device be configured to “process the sensor data from the sensor set during the driving period to derive driving information associated with how the vehicle is driven” and to store that driving information to the mobile device’s memory.

The executed application may be arranged to control the mobile device to process sensor data from the sensor set during a plurality of driving periods to derive driving information associated with when and/or how the vehicle is driven for each of the driving periods.

USAA-1001 at 6:11-15.

Wherein, the [mobile device] processor is arranged to process sensor data from the sensor set during the driving period to derive driving information associated with when and/or how the vehicle is driven and stores selection of the driving information to the [mobile device’s] memory.

USAA-1001 at 10:63-67.

The inventor, realizing the incredible processing and memory capabilities of mobile devices at the time, as well as the likely increase of those capabilities over time, recognized the benefits of deriving, processing, and storing driving information on the mobile device. These benefits include: (i) faster and more

reliable derivation of driving information; (ii) no need to transmit large volumes of sensor data from the mobile device to a server; and (iii) less storage space being required. This, as will be set forth in more detail below, is dramatically different than the state-of-the-art at the time, including the prior art references relied on by Petitioner.

IV. PRIMARY PRIOR ART REFERENCES RELIED ON BY PETITIONER

A. Curry *et al.* – Exhibit USAA-1005

Curry discloses a system and method that seeks to prevent drivers from using their mobile phones at various times and/or in various conditions, particularly while driving. However, Curry fails to disclose, teach, or suggest a mobile telecommunications device determining a start of a driving period and then processing sensor data from a sensor set on the mobile device to derive driving information associated with how the vehicle is driven throughout that driving period, or storing specifically a selection of such driving information to memory on the mobile device. Rather, Curry discloses a system and method that collects speed and location information only at a time at which and for a period after which the user's mobile device has been triggered to detect such speed and location data after a phone call is initiated by or received at the mobile device. Specifically, "[w]hen a call is made or received using a mobile phone 106, the mobile phone client 110 can record location, speed, and acceleration data from sensors embedded in the wireless

device,” USAA-1005 at 7:30-32, and then store that raw data “for an extended time period . . . in order to provide sufficient information for a user activity mode recognition program 120,” *id.* at 8:1-3, which program “estimates the context of mobile phone use . . . [and] can be used to determine if the use of a mobile phone in the related context violates the pre-set permission policies.” *Id.* at 8:6-10. When the program determines that the user is driving during that call, a call handling program may then control (*e.g.*, limit or prohibit) phone operation. Because the Curry system addresses the problem and dangers associated with distracted driving caused by mobile device usage, it need not (and does not) monitor how a vehicle is being driven at all times. Rather than tracking a user’s driving information from the start of and throughout the user’s driving period, the Curry system triggers all motion data collection upon the initiation or receipt of a call at the user’s mobile device. Further, while the mobile device of Curry transmits certain collected raw data to a remote server, the Curry mobile device does not derive any driving information from the data collected from sensors on the mobile device, much less driving information that is “associated with how the vehicle is driven,” and likewise does not store a selection of any such derived driving information in memory on the device, all as required by claim 1.

B. Rabu – Exhibit USAA-1013

Rabu provides a method for determining the orientation and movement of a portable media device (“PMD”), and enables generic and undefined differing “modes of operation” of that device based on the device’s orientation and movement. However, it 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 throughout such a driving period, or the storage of some particular selection of such driving information into memory on the PMD. Rather, Rabu describes determining a “holder status” that indicates “whether the PMD is docked, resting on a surface, or being held by a person,” USAA-1013 at 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.* at 1:62-65. The Rabu system determines a frequency spectrum associated with the holder motion and from such frequency spectrum determines the motion status of the PMD, *id.* at 4:29-33, and thereafter implements an undefined “mode of operation” for the PMD based on that motion status. Rabu, thus, does nothing to cure Curry’s deficiencies.

C. Forstall *et al.* – Exhibit USAA-1028

The Forstall system is directed to mobile device navigation, a field wholly distinct from the monitoring of driving behavior. It describes a system for aiding a user in map-assisted navigation using their mobile device and estimating their 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 a driving period, or the storing of a selection of any such driving information, or detecting the occurrence of any predetermined event and taking any action in response to the detection of any such predetermined event.

D. Langle – Exhibit USAA-1029

Langle posits that accelerometers on a mobile phone may be used in general to classify driving habits as safe or unsafe. 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. Rather, 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 and lane changes.

V. PERSON OF ORDINARY SKILL IN THE ART

Solely for the purpose of this Preliminary Response, Auto Telematics does not challenge USAA’s proposed definition of a person of ordinary skill in the art (“POSITA”). Auto Telematics reserves the right to provide an alternative definition of a POSITA if an IPR is instituted.

VI. 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) (en banc).² Here, Petitioner initially states that no express constructions are required in this

² 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.

proceeding,” Pet. at 3. Nonetheless, Petitioner then argues that the term “driving period” of Claim 1 “establishes just two ‘driving period’ attributes: (1) ‘the mobile device is removably attached to the vehicle’ and (2) ‘the vehicle is in use.’” Pet. at 4 (citing USAA-1003, ¶132). Further, Petitioner states 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 (citing USAA-1003, ¶132). 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 generalization 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. For example, the claims do not state that the mobile device must be removably attached “to satisfy a start of a monitoring period,” as suggested by Petitioner. *See* Pet. at 4. Instead, the claims require that the mobile device be removably attached *during* the driving period: “determine, based on inputs received by the user interface and sensor data from the device’s sensor set, a start of a driving

period *during which* the mobile device is removably attached to the vehicle and the vehicle is in use,” as recited by Claim 1 of the ’487 patent (emphasis added). The claim language itself accurately captures the scope of the invention, and there is no need for a different construction incorporating Petitioner’s manufactured limitations for the driving period.

Petitioner seeks to rewrite the claim language and then later argue that its rewritten claims require the Board to agree to each additional limitation Petitioner argues for in its Petition. Petitioner cannot create new terms for constructing the claims to suit its arguments. The Board should decline to adopt Petitioner’s constructions and instead agree with Patent Owner that the terms “driving period” and “start of a driving period” should be construed consistent with its plain and ordinary meaning.

VII. PETITIONER CANNOT SHOW THAT CLAIMS 1-13 ARE OBVIOUS.

Under Ground 1A, Petitioner contends that claims 1, 2, 5, 9, and 11-13 of the ’487 patent are unpatentable as obvious over Curry in view of Rabu. Separately, under Ground 2A, Petitioner contends that claims 1, 2, 12 and 13 are unpatentable as obvious over Forstall in view of Rabu and Langle.

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). The question of obviousness is based on underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective indicia of non-obviousness. *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966). 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) (cited with approval in *KSR*, 550 U.S. at 418).

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) (“A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning”); *In re Translogic Tech, Inc.*, 504 F.3d 1249, 1260 (Fed. Cir. 2007) (“as the Supreme Court suggests, a flexible approach to the TSM test prevents hindsight and focuses on evidence before the time of invention, without unduly constraining the breadth of

knowledge available to one of ordinary skill in the art during the obviousness analysis”) (internal citation omitted); *see also InTouch Technologies, Inc. v. VGO Commc’ns, Inc.*, 751 F.3d 1327, 1351 (Fed. Cir. 2014) (finding that testimony did not articulate reasons to combine and improperly used the challenged patent as a roadmap); *ActiveVideo Networks, Inc. v. Verizon Commc’ns, Inc.*, 694 F.3d 1312, 1327 (Fed. Cir. 2012) (“[T]he expert’s testimony on obviousness was essentially a conclusory statement that a person of ordinary skill in the art would have known, based on the ‘modular’ nature of the claimed components, how to combine any of a number of references to achieve the claimed inventions. This is not sufficient and is fraught with hindsight bias.”).

A. Petitioner Cannot Show That The Challenged Claims Are Obvious Over Curry In View Of Rabu

“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 . . . relied upon.” 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) (discussing the burden of proof in *inter partes* review).

Petitioner has not met this burden.

Petitioner contends that claims 1, 2, 5, 9, and 11-13 of the '487 patent are obvious over the combination of Curry and Rabu. Pet. at 6-39. This is not the case, however, as Curry and Rabu, individually, and in combination, fail to teach or suggest all of the elements of the claims, including at least:

determin[ing], 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] process[ing] the sensor data from the sensor set during the driving period to derive driving information associated with how the vehicle is driven[,]

as recited by Claim 1.

Further, Petitioner has not shown with particularity why the '487 patent is unpatentable. Specifically, Petitioner has misconstrued the differences between the claims of the '487 patent and the alleged prior art while providing insufficient rationale for why a POSITA would have been motivated to combine the cited references to arrive at the claimed subject matter. Additionally, Petitioner's rationale to combine is based on impermissible hindsight.

1. Petitioner Has Failed To Indicate With Particularity How The Cited Art Maps To The '487 Claims And Has Otherwise Misconstrued The Differences Between The '487 Claims And The Cited Art

In an attempt to determine “(1) the scope and content of the prior art; [and] (2) any differences between the claimed subject matter and the prior art,” Petitioner misapplies aspects of the cited art of Curry and Rabu. None of the references Petitioner relies on teaches or suggests at least these features of Petitioner’s identified claim elements [1.6] and [1.7]³ of the '487 patent:

determin[ing], 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] process[ing] the sensor data from the sensor set during the driving period to derive driving information associated with how the vehicle is driven.

USAA-1001 at Claim 1.

First, Petitioner does not clearly and completely map portions of Curry and/or Rabu to every element of the claims in any section of the Petition. Section III.A.1(a) describes Curry individually, while Section III.A.1(b) describes Rabu individually.

³ Petitioner divides the elements of claim 1 into different features using the naming convention [1.1], [1.2], etc. Pet. at x-xiii. For ease of reference, Patent Owner adopts Petitioner’s naming convention.

Neither section, however, includes a mapping of Curry or Rabu to the claim elements. Section III.A.1(c) immediately jumps to proposing how the two references could be integrated with each other, without relating the integration of Curry and Rabu to the claims. Further, Section III.A.1(c) of the Petition suggests only what benefits and capabilities would result from integrating Curry and Rabu together into a combination inspired by the claims. For example, Petitioner argues, “the result is a device with added functionality . . . , capable of defining and determining different types of driving periods based on user inputs and sensor data . . . , and of appropriately restricting phone use and/or adjusting user driving scores depending on a type of driving period determined.” Pet. at 11-12.

Petitioner attempts to loosely correlate Curry’s “monitoring mode” or “monitoring operating mode” to the driving period of the claims. *See, e.g.*, Pet. at 13, 25-26, 33, and 38. In Curry, the “monitoring mode” is triggered by a phone call being received or made, regardless of driving status. *See* USAA-1005 at 12:20-26. Curry does not teach (and Petitioner’s mapping does not point out) that a start of a driving period is determined at the time of receiving or making a call, such that the mobile communications device would then

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] process the sensor data

from the sensor set during the driving period to derive driving information associated with how the vehicle is driven.

USAA-1001 at Claim 1. Even if Petitioner argues that the start of a driving period could be triggered by a phone call in order to collect data for determining an activity mode, a POSITA would understand that this is not what is intended nor recited by the '487 patent claims when read as a whole. Likewise, even if Petitioner argues that the start of a driving period could be triggered by a phone call, this still would not disclose the claimed invention, as claim 1 requires that the start of the driving period be based on inputs received from the user interface *and* sensor data. In Curry, the receipt of a call is not determined by a sensor, but rather by the communications module being activated.

A POSITA would understand, based on the plain meaning of the claim terms, in light of the specification, that during a driving period, the vehicle of the '487 patent is being driven. The POSITA would further understand that driving information is collected by the mobile communications device during the driving period, which must have a start. Nothing in Curry or Rabu suggests that receipt of a phone call would act in the same way as the invention claimed in the '487 patent to determine the start of a driving period. In fact, a phone call might never even be placed or received, in which case a driving period under Petitioner's construction of Curry and Rabu would never start.

It is thus not clear how Petitioner is mapping Curry or Rabu 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 . . .” as recited by Claim 1, at least because Petitioner fails to particularly point out how the cited sections of Curry and Rabu apply.

Second, Petitioner does not provide a reason to combine Curry and Rabu that is not based on the ’487 patent itself. Nowhere in Section III.A.1 does Petitioner provide a reasoned motivation to combine Curry and Rabu into the “Curry-Rabu phone,” *e.g.*, something in Curry that would cause a POSITA to modify Curry, and further, to search out Rabu, beyond what is suggested by the ’487 patent. Without a motivation to combine, as would be understood by a POSITA at the time of the claimed invention, there would be no “Curry-Rabu phone” as Petitioner proposes. *See* Pet. at 11-19. *See also Intercontinental Great Brands LLC v. Kellogg N. Am. Co.*, 869 F.3d 1336, 1343 (Fed. Cir. 2017) (citing *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1047–48, 1051 (Fed. Cir. 2016) (en banc)) (requiring that Petitioner 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”).

In Section III.A.2, Petitioner revisits the proposed integration of Curry and Rabu but again fails to indicate how any specific teachings of Curry and/or Rabu, or

how parts of the integrated Curry-Rabu phone, should be mapped to the claim elements. For example, as to claim element [1.6], Petitioner states, “a POSITA would have configured Curry-Rabu phone to determine, based on user inputs and orientation and motion data from accelerometer 116, a start of a driving period during which phone 106 is removably attached to the vehicle via a docking station and the vehicle is in use.” Pet. at 23. Not only is this an inaccurate statement of claim element [1.6], but Petitioner has not particularly pointed out how the cited parts of Curry or Rabu map to claim element [1.6]. *See* Pet. at 23. Petitioner has the burden to do so, as required in a challenge to claims under 35 U.S.C. § 103. *See Harmonic*, 815 F.3d at 1363 (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”)).

Further, Petitioner overgeneralizes the cited art and suggests multiple ways of configuring its proposed Curry-Rabu phone that would suit various aspects of the claims, yet the descriptions of these configurations fail to reveal a particular mapping of portions of the cited art to the claim elements. *See, e.g.*, Pet. at 23-28. Based on Petitioner’s overgeneralizations of the cited art and lack of particularity in applying the cited art to the claims, it appears Petitioner is mapping the receipt of a phone call in Curry as the trigger for the start of a driving period in claim element [1.6]. *See* Pet. at 23. If so, Petitioner confuses the claim features and fails to recognize their

differences from the cited art, at least because Curry teaches using previously collected motion data to determine an activity mode when a call is received or made, and then disabling the call if the user is determined to be driving. *See* USAA-1005 at 12:20-13:26. This does not read on elements [1.6] and [1.7] discussed above. If, in the Petitioner's view, the receipt of a phone call, as in Curry, determines the start of a driving period and a phone call is never received or made, Petitioner's Curry-Rabu device would never record the start of a driving period and claim elements [1.6] and [1.7] would never be realized. Further, the combination would defeat the '487 Patent's purpose of continuously "process[ing] the sensor data from the sensor set during the driving period to derive driving information..." which is used to gather real-time data for correlation with and plotting against a visual map anytime a user wishes to capture a recording. Instead, Curry post-processes data after a call is received or made. *See* USAA-1005 at 10:3-14; 12:20-13:26; 15:7-22. Such a limitation, which monitors whether a user is driving at the time of a call, would defeat the purpose of the '487 patent for continuously monitoring how a vehicle is being driven.

Further, particular portions of Rabu, which is directed to "determin[ing] a motion and orientation status of [a] PMD," USAA-1013 at 1:41-42, are not cited to cure the deficiencies of Curry. Rabu may "indicate whether the holder [of the PMD] is in a moving vehicle," USAA-1013 at 2:56-58, which Rabu concludes by

determining “if the difference between the first location and the second location is more than a threshold, e.g., 100 feet.” USAA-1013 at 4:47-54. However, Rabu does not determine the start of a driving period based on inputs received by the user interface and sensor data, as required by claim element [1.6], or process the sensor data during the driving period to derive driving information associated with how the vehicle is driven, as required by claim element [1.7]. Rabu instead is concerned with holder motion status, which is primarily determined not by GPS but by analysis of frequency spectrum. *See* USAA-1013 at 4:30-33.

2. Petitioner Has Provided Insufficient Rationale To Combine Curry And Rabu

In arriving at a rationale to combine, “the question under 35 U.S.C. § 103 is not merely what the references expressly teach but what they *would have suggested* to one of ordinary skill in the art at the time the invention was made.” *Merck & Co. v. Biocraft Labs., Inc.*, 874 F.2d 804, 807 (Fed. Cir. 1989) (quoting *In re Lamberti*, 545 F.2d 747, 750 (CCPA 1976)) (emphasis added); *see also* Manual of Patent Examining Procedure § 2123 (9th ed. rev. 10.2019 June 2020) (“MPEP”).

Petitioner states, among other things, that “[a] person of ordinary skill in the art . . . would have found obvious integration of Rabu’s dock status sensing and associated mode-shifting capabilities into Curry’s phone, thereby enhancing the Curry’s phone’s ability to promote safe driving.” Pet. at 11 (citing USAA-1003, ¶100). Petitioner further reasons that “the result is a device with added functionality

(‘Curry-Rabu phone’), capable of defining and determining different types of driving periods based on user inputs and sensor data (including one in which the phone is docked within a moving vehicle, and another in which the phone is undocked within a moving vehicle), and of appropriately restricting phone use and/or adjusting user driving scores depending on a type of driving period determined.” *Id.* at 11-12.

Petitioner’s rationale of “enhancing the Curry’s phone’s ability to promote safe driving” and creating “a device with added functionality” are generic and nothing but conclusory statements that the combination “would have been obvious.” *See In re Van Os*, 844 F.3d 1359, 1361 (Fed. Cir. 2017); *see also ActiveVideo Networks Inc.*, 694 F.3d at 1328 (finding expert testimony of motivation to combine “to build something better,” “more efficient, cheaper, or” something that “had more features” was generic and insufficient). Section 103, however, does not permit such conclusory statements to form the basis of an obviousness argument.

Petitioner provides examples of added functionality that could be achieved: “For example, the Curry-Rabu phone would leverage orientation and motion data from its accelerometer to determine both vehicle motion and phone docking status upon a user accepting a phone call while driving, or manually switching from a stationary to driving activity mode through interactions with the phone’s user interface.” Pet. at 12. Petitioner generically concludes that “the Curry-Rabu phone

would appropriately restrict phone interactions depending on the determined status (e.g., preventing the user from texting while the phone is handheld).” *Id.*

By at least these examples, Petitioner states what a POSITA *could* do by combining Curry and Rabu, but fails to provide sufficient rationale, beyond generic statements drawing on nothing but hindsight, for why a POSITA *would be motivated* to combine Curry and Rabu. “[O]bviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention.” *See Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015); *Polaris Indus., Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1068–69 (Fed. Cir. 2018) (finding that “the Board focused on what a skilled artisan would have been *able* to do, rather than what a skilled artisan would have been *motivated* to do at the time of the invention”). Here, Petitioner fails to provide *any* motivation for the referenced combination.

As a further example, Petitioner argues, “[t]he POSITA would have found relevant solutions within Rabu, and would have expected success in incorporating Rabu’s solutions within Curry.” Pet. at 14 (citing USAA-1003, ¶105). Petitioner goes on to compare some of Curry’s features with Rabu’s features. *See* Pet. at 15-16. However, “relevant” solutions and feature similarities are not sufficient motivations 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—more is required to support the legal conclusion of obviousness. *See KSR*, 550 U.S. at 418; *see also Microsoft Corp. v. Enfish, LLC*, 662 F. App’x 981, 990 (Fed. Cir. 2016) (determining that the Board correctly concluded that 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”).

Petitioner proffers that “Rabu describes leveraging a ‘generally conventional’ accelerometer like Curry’s to determine a phone’s orientation angle and motion status, for purposes of discerning phone usage context, and changing the phone’s operating mode to appropriately account for that context.” Pet. at 14. Even more generically, Petitioner points out, “[s]imilar to Curry, each of Rabu’s defined modes of operation include appropriate levels of phone use restrictions.” *Id.* at 15. However, use of an accelerometer and “phone use restrictions” as generic features of both Curry and Rabu do not sufficiently explain why a POSITA would look to combine these references.

Further, Petitioner asserts that “the combined disclosures of Curry and Rabu would have amply motivated a POSITA to supplement Curry’s teachings of determining the start of a driving period based on user inputs (*e.g.*, initiating a motion estimation process based on a user’s interactions with the phone’s user interface

when accepting a phone call, or when manually changing between activity modes) and sensor data to include, e.g., using accelerometer motion and orientation data to differentiate between defined driving periods in which phone 106 is hand-held, and those in which phone 106 is instead docked.” Pet. at 16. However, Petitioner once again offers no reason for what would have motivated the POSITA to combine Curry and Rabu.

Although Petitioner argues that the individual elements were known in the cited prior art references and that combining those references would have yielded the claimed invention, Petitioner does not explain *why* a POSITA would have combined those elements in the claimed manner. *See KSR*, 550 U.S. at 418 (“[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art”). Petitioner ineffectively leans on *KSR* to contend that

configuring Curry’s systems to leverage Rabu’s teachings would have required only routine programming knowledge well within the skill of a POSITA, [and] the change would have amounted to nothing more than the use of a known technique to improve similar devices – in each instance a smart phone equipped with a generic accelerometer – in a similar way, and combining prior art elements according to known methods to yield predictable results.

But this argument merely recognizes that the POSITA *could* have done it, not *would* have done it, given the very different purpose of Rabu for detecting docking status

using frequency analysis of motion sensor data. Pet. at 18 (citing *KSR*, 550 U.S. at 417; USAA-1003, ¶115); USAA-1013, Abstract.

Petitioner provides several conclusory statements regarding what a POSITA would find obvious, but such statements provide no support or rationale for why a POSITA would have looked to the Curry and Rabu references in the first place. While each statement may provide *a result of the combination*, after the fact, none of the statements provide a reason why the combination would have been obvious. For example, Petitioner states, “[a] person of ordinary skill in the art (“POSITA”) would have found obvious integration of Rabu’s dock status sensing and associated mode-shifting capabilities into Curry’s phone, thereby enhancing the Curry’s phone’s ability to promote safe driving.” Pet. at 11 (*citing* USAA-1003, ¶100). As another example, Petitioner states, “if the phone is docked within a moving vehicle, a POSITA would have found it obvious to change the phone’s operating mode to one involving relatively fewer restrictions.” Pet. at 15. As a further example, Petitioner states, “consistent with Curry’s description of allowing drivers to ‘talk[] while driving through headsets,’ a POSITA would have found it obvious to, upon receipt of user inputs, leverage motion and orientation data from the same accelerometer already present in Curry’s phone 106 to determine that a driver may utilize a docked phone’s speaker mode while driving.” *Id.* at 15-16. While these

statements may identify what might be gained by the combination, they provide absolutely no motivation for the combination other than impermissible hindsight.

Still further, Petitioner argues, without evidence, “[t]he POSITA would have found obvious that enhancing Curry’s system based on Rabu would introduce multiple additional advantages,” (Pet. at 16 (*citing* USAA-1003, ¶109)). However, just because Petitioner can rationalize advantages of combining references *after the fact*, the advantages themselves do not provide sufficient reasons why it would have been obvious to combine the references in the first place. *See, e.g., ActiveVideo Networks Inc.*, 694 F.3d at 1328 (finding expert testimony of motivation to combine “to build something better,” “more efficient, cheaper, or” something that “had more features” was generic and insufficient). Petitioner once again does not provide rationale for why a POSITA would have looked to the references without impermissibly relying on hindsight.

Continuing, Petitioner asserts, again without evidence, “the POSITA would have found obvious that extending these and other teachings of Curry to further leverage orientation data from the phone’s embedded accelerometer to determine a start of a driving period during which the phone is removably attached to the moving vehicle via a docking station, would enable the phone to differentiate instances in which the phone is hand-held during the period from those in which the phone is instead removably attached.” Pet. at 27-28. Petitioner goes on to list purported

enhancements allegedly “enabled [by] the enhanced Curry-Rabu phone” that conveniently resemble some of the features of the ’487 patent—specifically “adjustments to phone access restrictions associated with the phone’s operating modes, to determinations of user driving behaviors, and to generation of user driving scores, with multiple additional advantages flowing therefrom.” *See* Pet. at 28.

Like the above examples, Petitioner spends much of the Petition explaining what the combined Curry-Rabu phone could possibly do, but none of the Petition explaining why a POSITA would have been motivated by either of the references to combine them to arrive at the claims of the ’487 patent. Similarly, there is no rationale provided for Petitioner’s conclusory statement, “[a] POSITA would have found obvious processing sensor data during the driving period to derive “possible violations of mobile phone use or unsafe driving behavior.” Pet. at 30. Nor does Petitioner provide rationale for why, “[f]rom Curry, a POSITA would have found it obvious to store all or a subset of the derived driving information in the memory of the Curry-Rabu phone, and thus, to store a selection of the driving information to the memory.” Pet. at 31.

A determination of obviousness cannot be based on mere conclusory statements; “instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d at 988. Such “rational underpinning,” in view of the understanding of a POSITA,

might include “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d at 1573, 1579 (Fed. Cir. 1995) (quoting *Custom Access., Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986)). Petitioner offers no such reasoning.

Petitioner erroneously suggests that Curry’s silence on a particular topic or feature somehow provides sufficient reason for a POSITA to search out Rabu. Petitioner merely speculates on Curry’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 at 988; *In re GPAC Inc.*, 57 F.3d at 1579. “The legal conclusion of obviousness must be supported by facts” and 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 violates this proposition.

For example, Petitioner asserts, “[a] POSITA would have found it obvious to configure a Curry-Rabu phone to derive driving information based on its recorded sensor data alone when considering Curry’s disclosures of data obtained by embedded sensors (e.g., accelerometer 116) being used to derive the driving information.” Pet. at 33. From this, Petitioner reasons, “[i]n those disclosures, Curry never once describes or suggests leveraging the vehicle’s sensors.” *Id.* Merely

speculating that lack of any suggestion could lead a POSITA to a specific motivation, Petitioner goes on, “[t]o this point, a POSITA would have understood and found obvious from Curry that vehicle sensor data is not necessary to derive driving information.” *Id.*

Petitioner’s gap-filling analysis seeks to compensate for what is absent from the references themselves. But “[t]o 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.” *Sensonic Inc. v. Aerosonic Corp.*, 81 F.3d 1566, 1570 (Fed. Cir. 1996) (citing *W.L. Gore & Assoc. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983)). “The invention must be viewed not after the blueprint has been drawn by the inventor, but as it would have been perceived in the state of the art that existed at the time the invention was made.” *Id.* (citing *Interconnect Planning Corp. v. Feil*, 774 F. 2d 1132, 1138 (Fed. Cir. 1985)). Thus, the Board should not give weight to Petitioner’s speculation about what is missing in Curry. As the Federal Circuit has explained, “legal determination of obviousness . . . should be based on evidence rather than on mere speculation or conjecture.” *Alza Corp. v. Maylan Labs., Inc.*, 464 F.3d 1286, 1290 (Fed. Cir. 2006).

Petitioner then conflates Curry’s teachings with Petitioner’s cobbled Curry-Rabu combination: “Curry instead discloses leveraging sensors, processors, and

memory found in the Curry-Rabu phone to derive the driving information.” Pet. at 33 (*citing* USAA-1005, 11:15-25; USAA-1013, 1:36-2:14; USAA-1003, ¶152). However, Curry does not disclose the Curry-Rabu phone. Petitioner’s next statement (“[t]his remains true even if a POSITA were to consider Curry’s disclosure to be open-ended given other disclosures relating to other types of data distinct from the recorded sensor data” Pet. at 34) makes clear that Petitioner is not considering the teachings of the cited art in its rationale to combine, but rather Petitioner’s own inferences based on hindsight, which are impermissible in an obviousness analysis. *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.”).

3. 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 relies on hindsight for its analysis, disregarding the subject matter as a whole. Although “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton” (*KSR*, 550 U.S. at 421), 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.*, 882 F.3d at 1068. The

Federal Circuit has also explained that the invention must be considered “as a whole.”

[I]n making the assessment of differences between the prior art and the claimed subject matter, section 103 specifically requires consideration of the claimed invention “as a whole.” Inventions typically are new combinations of existing principles or features. The “as a whole” instruction in title 35 prevents evaluation of the invention part by part. Without this important requirement, an obviousness assessment might successfully break an invention into its component parts, then find a prior art reference corresponding to each component. This line of reasoning would import hindsight into the obviousness determination by using the invention as a roadmap to find its prior art components.

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 communications device were known in the art 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*, 869 F.3d at 1343 (citing *Apple Inc.*, 839 F.3d at 1047–48, 1051). 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 bias. 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 telecommunications 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). *See also In re Gorman*, 933 F.2d 982, 987 (Fed. Cir. 1991) (“It is impermissible [to use] applicant’s structure as a template and select[] elements from references to fill the gaps”). “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.*, 81 F.3d at 1570 (citing *W.L. Gore & Assoc.*, 721 F.2d at 1553).

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 portable

media device, comparing that frequency spectrum to a database of frequency spectra to determine a motion status and mode of operation of the portable media device, and further using such data to distinguish whether the portable media device is in a dock, resting on a surface, being handled by a person, located in a moving vehicle, or located in a stationary vehicle. *See* USAA-1013 at Abstract. Whereas Rabu requires the use of frequency data to make these specific distinctions and determinations, such use of frequency data would have been considered not only unnecessary but technically overkill by a POSITA, both for the '487 patent and for Curry.

In this regard, the '487 patent relies on the availability of continuous sensor data (including continuous positioning data and accelerometer 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. The '487 patent thus has no need for the use of frequency data like Rabu does. Neither would Curry, as Curry teaches receiving GPS data only when a phone call is received or made, while in a driving mode, to mitigate the power burden of always-on GPS while permitting or restricting phone use based on the driving mode. *See* USAA-1005 at 3:2-4:28. *See also id.* at 14:28-33 (“[I]f the GPS is always on, the battery of a GPS-enabled phone can only last a very short time period, e.g. 4-5 hours. To reduce battery consumption, the GPS receiver is re-activated only right after a phone call is made or received”).

Of note, this feature of Curry would also have discouraged a POSITA from picking up Curry in the first place, because Curry does not use, and in fact discourages the continuous monitoring of, position data, such as for example always-on GPS. *See id.* at 3:2-4:28; 14:28-33. For at least these reasons, Petitioner’s rationale for combining Curry and Rabu, considering the ’487 patent as a whole, is not sufficiently supported by a rational underpinning. *See KSR*, 550 U.S. at 418.

Moreover, a POSITA would also not have been motivated to look to Curry or Rabu to arrive at the ’487 patent’s claims because Curry teaches away from using always-on navigation and positioning, which the invention may use. “A reference may be said to teach away when a person of ordinary skill, upon reading the reference . . . would be led in a direction divergent from the path that was taken by the applicant.” *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004).

Specifically, Curry teaches that, “[t]o reduce the power consumption, the embedded GPS receiver 314 in a mobile phone is typically turned off by default when a mobile phone is in standby mode or . . . is not charged. Otherwise, if the GPS receiver is always on, the battery of a GPS-enabled phone can only last a very short time period, e.g., 4-5 hours. To reduce the battery consumption, the GPS receiver is re-activated only right after a phone call is made or received.” USAA-1005 at 14:28-15:7. Thus, a POSITA at the time of the invention would not have looked to Curry for insight to arrive at the ’487 patent’s reliance on always-on positioning as that

concept is actually disparaged by Curry. Petitioner ignores this teaching of Curry and has failed to provide sufficient reason as to why a POSITA would have looked to Curry, let alone modified Curry with Rabu, when such modification would have added even more data processing (beyond what is needed by always-on positioning, which Curry disparages) to incorporate Rabu's methods of analyzing frequency (in concert with always-on positioning) to determine motion status and type of motion of Rabu's portable media device. *See* USAA-1013 at 2:48-3:10; 4:15-58.

Rabu teaches determining a motion status and selecting a mode of operation of a portable media device based on the motion status, using orientation angle of the portable media device and a frequency spectrum of the motion of the portable media player. *See* USAA-1013, Abstract. Thus, a POSITA at the time of the invention likewise would not have looked to Rabu for insight to arrive at the '487 claims because the use of frequency spectrum data to determine motion and orientation of a phone would not have been necessary to arrive at the claims of the '487 patent. *See* USAA-1001, Abstract. Additionally, the frequency spectrum technology would have been considered excessive by a POSITA at the time of the '487 invention. Curry specifically teaches that a combination of "information from GPS and accelerometer sensors" can be used "to precisely identify the type of activity," with no further suggestion of a lack of data or need for more advanced technology for "distinguish[ing] driving, walking or running modes." USAA-1005 at 15:26-16:2.

Nothing in Curry suggests that using the frequency spectrum of Rabu to determine how a vehicle is being driven would instead be better than using always-on GPS or other positioning for mitigating Curry's cited power consumption issues such that it would make technical sense to put Curry and Rabu together to arrive at the '487 Patent. A POSITA at the time of the invention would instead have been discouraged to combine Curry with Rabu because Rabu's frequency spectrum positioning determination would likely require even more processing power. *See* USAA-1013 at 4:15-5:14 (describing processor 404 that can "determine the angle [the PMD] is tilted" and "a frequency spectrum," "receive inputs from accelerometer 409, GPS device 405, and gyroscope 407 to calculate an orientation angle of PMD 400," as well as "use [continuous] input from GPS device 405"). Similarly, nothing in Rabu suggests that using Curry's triggered GPS-positioning determination would have been a suitable solution for determining a mobile device's specific orientation. *See* USAA-1013 at 8:13-10:42. Thus, while Curry's disclosure might generally encourage a POSITA to look to improving its battery, there is nothing in Curry's disclosure to encourage a POSITA to collect more power-consuming data as disclosed by Rabu to arrive at the claims of the '487 patent. A POSITA simply would not be motivated to modify Curry to arrive at the claims of the '487 patent or to seek out Rabu for any of Curry's alleged shortcomings. Therefore, a POSITA at the

time of the invention would not have been led to combine Curry and Rabu to arrive at the claims of the '487 patent.

Thus, there is insufficient explanation in the Petition or Petitioner's expert declaration as to why a POSITA would have combined the teachings of Curry and Rabu in the manner Petitioner proposes. Petitioner appears to rely upon the teachings of the '487 patent itself to argue that Curry discloses or renders obvious these very teachings. Petitioner's analysis reads limitations of the '487 patent into the cited art, which amounts to, once again, a hindsight analysis. *Cf. Ruiz v. A.B. Chance Co.*, 357 F.3d 1270, 1275 (Fed. Cir. 2004) ("This form of hindsight reasoning, using the invention as a roadmap to find its prior art components, would discount the value of combining various existing features or principles in a new way to achieve a new result — often the very definition of invention").

For all of the foregoing reasons, Petitioner has failed to show that the challenged claims are obvious over Curry in view of Rabu. Petitioner's rationale to combine Curry and Rabu is conclusory, does not have the factual support necessary to guard against impermissible hindsight, and ignores aspects of Curry and Rabu that indicate undesirability of combining these references. Therefore, the Board should not institute IPR for Ground 1A.

Further, an IPR should not be instituted for Grounds 1B through 1D for the same reasons as set forth above for claim 1. Adding additional references to the

Curry-Rabu combination for claims 3, 4, 6-8, and 10 does not change the patentability of claim 1 and thus the patentability of any of these dependent claims. Petitioner's additional cited references of Balachandran, Katayama, and Tamir do not affect the patentability analysis, and those references cannot cure the deficiencies identified above for the Curry-Rabu combination. Thus, claims 3, 4, 6-8 and 10 also remain patentable under 35 U.S.C. §103.

B. Petitioner Cannot Show That The Challenged Claims Are Obvious Over Forstall In View Of Rabu And Langle

Petitioner's analysis regarding the proposed combination of Forstall, Rabu, and Langle is replete with stretched characterizations of those references and conclusory statements and inadequate rationale regarding how a POSITA might employ and combine them. As such, the Board should decline to institute IPR on this Ground 2A, as well.

Petitioner's analysis fails to establish that claims 1, 2, 12 and 13 are obvious over Forstall, Rabu, and Langle for at least three reasons. First, the primary reference (*i.e.*, Forstall) is in a wholly unrelated art—navigation tools. A POSITA would never have reason to look to Forstall in crafting systems and methods for deriving information about how a vehicle is driven, and would likewise never seek to modify Forstall with functions relating to how a vehicle is driven. Second, Petitioner fails to establish that a POSITA would be motivated to combine the cited prior references in the manner proposed in the Petition. Third, even if one were to

combine those prior art references in the manner suggested, Petitioner nonetheless fails to establish that the result would yield the claimed invention.

1. Forstall Is Inapplicable And Nonanalogous To The Field Of The '487 Patent

As with other traditional navigation systems, Forstall employs a mobile device with a GPS sensor used to determine the physical location of a mobile device, and in turn, display the position of the mobile device on a digital map to aid the mobile device user in navigating to a particular destination. *See, e.g.*, USAA-1028 [0058]. Forstall is intended to address a challenge that existed with previous navigation systems. Specifically, “environmental factors can prevent the location of the device [from] being determined. For example, GPS reception is often not possible unless a line of sight can be established between the GPS receiver and the number of satellites needed to compute the receiver’s location.” USAA-1028 [0060]. To address these challenges, the Forstall system employs sensors on the mobile device, such as an accelerometer, compass, and/or gyroscope,

to measure the movement of the [mobile] device 100 from a point of origin or known location (a “fix”) to determine the device’s location relative to the fix. Location measurement techniques of this type are generally referred to as “dead reckoning.” Dead reckoning can be used in conjunction with other location measurement techniques such as GPS or user input, and used in cases where no satellite or terrestrial positioning signal information is available.

USAA-1028 [0062]. If the mobile device loses contact with the GPS signal, the mobile device “is configured to switch into a dead reckoning positioning mode . . .”

Id.

Thus, Forstall addresses challenges that exist in navigation applications on mobile devices when they lose connectivity with a GPS signal, and substitutes that loss in connectivity with dead reckoning to estimate the position of the mobile device. Forstall has no connection to the field of monitoring the manner in which a vehicle is driven, and provides no disclosure relevant to the field of monitoring driving behavior. A POSITA working in the field of the invention would have no reason to look to the navigation system of Forstall in the first place for information on how one might monitor and log driving behavior, and likewise would have no reason to look to unrelated art relating to monitoring the manner in which a vehicle is operated to improve upon the navigation system of Forstall.

“Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor’s endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.” *In re Bigio*, 381 F.3d 1320, 1325, (Fed. Cir. 2004) (citing *In re GPAC Inc.*, 57 F.3d at 1578). Here, Forstall is from the field of navigation systems and the manner in which navigations systems operate to determine a specific location of a

user of that system. The '487 patent relates to deriving and monitoring information indicative of *how* a vehicle is being operated. The first concerns providing navigational directions to a user of an application, while the latter concerns monitoring a driver's driving behavior. These are two entirely separate and distinct fields of endeavor, and a POSITA would not naturally look to both of them simultaneously when considering possible improvements in either of them.

Further, and as noted above, the problem facing the inventors in the '487 patent was how to derive and monitor driving information relating to when and how a vehicle is being driven by a user, independent of the vehicle itself. One seeking solutions to that challenge would simply have no reason, and Petitioner provides none,⁴ as to why someone would look to a navigation system such as that disclosed in Forstall to address the challenges relating to deriving and monitoring vehicle-independent and driver-specific driving information associated with when and how

⁴ In fact, nowhere in Petitioner's description of Forstall (Petition pp. 52-56) is any attempt made to link Forstall's navigation system to a need for, or connection to, monitoring of the manner in which a vehicle is operated, or how or why a POSITA concerned with monitoring the manner in which a vehicle is operated might glean any relevant input from a disclosure such as Forstall relating to systems and methods for vehicle navigation.

a vehicle is being driven. The issue of improving navigation systems as taught by Forstall simply is not “one which, because of the matter with which it deals, logically would have commended itself to an inventor’s attention in consider his problem” of monitoring how a vehicle is being driven, and thus is not reasonably pertinent to the invention of the ’487 patent. *In re Icon Health & Fitness, Inc.*, 496 F.3d 1374, 1380 (Fed. Cir. 2007). Forstall and the invention of the ’487 patent address wholly separate and distinct problems and are in clearly different fields of endeavor, such that Forstall simply is not analogous art to which an inventor working in the field of the invention of the ’487 patent would be directed.

As Forstall is non-analogous to the field of the invention of the ’487 patent, a POSITA would not be motivated to look to it in the first place to address challenges in the field of the invention of the ’487 patent, or to combine with prior art references that are allegedly in the field of the invention of the ’487 patent. Forstall therefore should not be relied upon to support institution.

2. Petitioner Fails To Establish That A POSITA Would Be Motivated To Modify Forstall With The Teachings Of Rabu

As Forstall is entirely outside of the field of the claimed invention of the ’487 patent, the obviousness analysis relying on Forstall should end there. Nonetheless, even applying the unrelated Forstall disclosure to the invention of the ’487 patent, a POSITA would not be motivated to combine the Forstall navigation system with the docking station of Rabu.

As described above, Rabu provides a method for determining orientation and movement of a portable media device, and enables generic and undefined differing “modes of operation” of that device based on the device’s orientation and movement. Petitioner attempts to link the navigation system of Forstall to the detection of orientation and movement of a portable media device as disclosed in Rabu through simply the mention in both references to a “vehicle mode detection,” surmising that a POSITA would have 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 absent some explicit user indication.” Pet. at 57. However, in Forstall, “vehicle mode” is nothing more than a navigation system operating mode in which the software compares “accelerations along the axes perpendicular to the axis of gravity . . . with rotations detected by the gyroscope to determine a change of direction” during dead reckoning processing of the navigation system. USAA-1028 [0070]. Such is a directional measurement for estimating the physical location of the mobile device based on a prior known location. There is simply no aspect of Forstall’s vehicle mode that requires any alleged “practical solution,” and there likewise is no aspect of Forstall’s “vehicle mode” that would lead a POSITA to consider a mode of operation of a mobile device as disclosed in Rabu. The mere mention in the two references of “modes” relating to vehicles is not enough to suggest any combination of them to a POSITA.

Further, the “vehicle mode” of operation of the Forstall navigation system is a default mode of operation for employing the above-described “dead reckoning” method of estimating the location of the mobile device. USAA-1028 [0064]. A separate “walking mode” may be enabled when the navigation system detects that the user is taking steps, such as through impact sensors in the user’s footwear. *Id.* [0061]. Otherwise, the Forstall system remains in the default “vehicle mode.” Other than mentioning that acceleration “along the axes perpendicular to the detected gravity axis are given enhanced weight in the vehicle mode,” *id.* [0070], Forstall does not otherwise distinguish how the navigation system might differ in operation between the “driving mode” and the “walking mode.”

Petitioner makes the conclusory statement that such operation of Forstall requires “practical solutions relating to Forstall’s vehicle mode detection since its disclosure lacks implementation details relating to detecting a vehicle mode absent some explicit user indication.” Pet. at 57. Forstall simply does not disclose, nor does it require, a “vehicle mode detection,” but instead employs a “vehicle mode” of operation (that simply has the effect of adjusting a weight that is assigned to certain acceleration data, USAA-1028 [0070]) that is the default mode of operation. Because it is a default mode of operation, there is simply no need of detection of that mode that would lead a POSITA to look to the Rabu reference, which describes a

mode of operation of a mobile device based on its determination of how and when the mobile device is being used in relation to movement of a vehicle.

Petitioner seeks to create a problem or challenge in Forstall that allegedly may be addressed by Rabu where none exists. As Forstall operates by default in a “vehicle mode,” there is absolutely no need to “detect a vehicle mode” as asserted by Petitioner, and thus there is no reason or motivation to look to the docking station of Rabu to solve any challenge relating to “detecting a vehicle mode” in Forstall.

The “practical solution” alleged by Petitioner lacks support in the references themselves. Nothing in those references would suggest to a POSITA that the “mode” of weighing acceleration data in Forstall might in any way 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. As noted above, “the question under 35 USC §103 is not merely what the references expressly teach but what they *would have suggested* to one of ordinary skill in the art at the time the invention was made.” *Merck & Co.*, 874 F.2d at 807 (quoting *In re Lamberti*, 545 F.2d at 750) (emphasis added). Here, nothing in Rabu would have suggested any modification to the Forstall method of weighing acceleration data. 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. “[O]bviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention.” *See Belden Inc.*, 805 F.3d at 1073; *Polaris Indus., Inc.*, 882 F.3d at 1068–69 (finding that “the Board focused on what a skilled artisan would have been *able* to do, rather than what a skilled artisan would have been *motivated* to do at the time of the invention”).

Further, Petitioner argues that a POSITA would be motivated to combine Rabu and Forstall because “determining that a mobile device is docked in a moving vehicle provides a basis for changing the operational mode to ‘vehicle mode,’ which then enables position measurement using a ‘default dead reckoning mode.’” Pet. at 58. Again, Forstall already operates in a default dead reckoning vehicle mode, and simply switches to a dead reckoning walking mode when impact sensors in the user’s footwear indicate the user is taking steps. USAA-1028 [0065]. As the Forstall device is operating by default in a dead reckoning mode, a POSITA would have no reason to look to Rabu to change into that default mode, or to provide an unnecessary additional component of the docking station that Rabu requires in order to enable Rabu’s “mode detection.”

A determination of obviousness cannot be based on these types of mere conclusory statements, but rather “there must be some articulated reasoning with

some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d at 988. Here, there is none. Petitioner’s purported motivation to combine Rabu and Forstall simply does not apply to the disclosures in those references, and again should not be relied upon to support institution.

3. Petitioner Fails To Establish That A POSITA Would Be Motivated To Modify Forstall, Whether Alone Or With Rabu, With The Teachings Of Langle

Again, an analysis of the combination of Forstall, Rabu, and Langle should end at Forstall, given it is entirely outside of the field of the claimed invention of the ’487 patent. Moreover, a POSITA would not be motivated to combine the Forstall navigation system (whether alone or in combination with Rabu) with the acceleration curve classification methods of Langle.

Here, Petitioner asserts that a POSITA would be motivated to combine the teachings of Langle with Forstall because, allegedly, navigation systems increase risk of accidents and would thus lead one to combine the wholly unrelated vehicle driving classification aspects of Langle with the navigation system of Forstall.

As described above, the subject matter of Forstall is enabling navigation systems on a mobile device to continue operation even after loss of a GPS signal by “performing location estimation using dead reckoning.” USAA-1028 Abstract. In contrast, the subject matter of Langle is classifying driving behavior through analysis of the shapes of curves of acceleration over time as measured by “a Google phone

to classify safe versus unsafe driving”, and more particularly 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, or need for, “safety,” there is simply nothing in Forstall that would motivate a POSITA to look to systems and/or methods for classifying acceleration curves as evidencing safe or unsafe braking or lane changes 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 risk 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 a safety risk associated with using a navigation system as disclosed by Forstall. 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 at 1361; *see also ActiveVideo Networks Inc.*, 694 F.3d at 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).

Nothing in the navigation system of Forstall would have suggested to a POSITA that s/he should look to systems or methods of classifying vehicle

acceleration as evidencing safe or unsafe braking or lane changing to in any way improve upon the Forstall navigation system. Moreover, if a POSITA by happenstance were to come upon the teachings of Langle, the functions of Langle of classifying accelerations as safe or unsafe braking or lane changes has no bearing on any alleged safety concern relating to a driver viewing a navigation system.

Even further, Langle discloses nothing more than the idea that graphed curves showing acceleration as measured by a mobile device's accelerometer over time may be used to classify that acceleration as "safe" or "unsafe" driving activity. Knowledge of whether a specific acceleration evidences "safe" or "unsafe" driving does nothing to improve upon a navigation application on a mobile device. A POSITA seeking to improve upon such a navigation application would have no need or inclination to look to systems or methods for classifying accelerations as "safe" or "unsafe," which is the specific teaching of Langle.

Petitioner asserts that a POSITA with knowledge of Forstall, directed specifically to a navigation program on a mobile device, would necessarily undertake a search for generalized technologies relating to the wholly unrelated field of vehicle safety to improve upon that navigation program, and then would have invariably come upon Langle's disclosure of determining the manner in which a vehicle is being driven. Such broad-stroke conclusions go far beyond the reach of any motivation present in the Forstall and Langle references, and simply do not

provide justification for combining Langle with Forstall, whether alone or in combination with Rabu. Petitioner's purported motivation to combine Langle with Rabu and Forstall therefore likewise fails, and again should not be relied upon to support institution.

4. Petitioner's Proposed Combination Of Forstall, Rabu And Langle Does Not Disclose The Claimed Invention Of The '487 Patent

Notwithstanding all of 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 of the '487 patent requires that "the mobile telecommunications 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 of the '487 patent. Thus, Petitioner's combination of Forstall, Rabu, and Langle applying nonanalogous art 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. Therefore, the Board should likewise not institute IPR for Ground 2A in the Petition.

Further, an IPR should not be instituted for Grounds 2B through 2E for the same reasons as set forth above for Ground 2A. Adding additional references to the Forstall-Rabu-Langle combination for claims 3-11 does not change the patentability of claim 1 and thus the patentability of any of these dependent claims. As with Ground 1A, Petitioner's additional cited references of Balachandran, Katayama, and Tamir do not affect the patentability analysis, and those references cannot cure the deficiencies identified above for the Curry-Rabu combination. Thus, claims 3-11 also remain patentable under 35 U.S.C. §103.

VIII. 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 request for *inter partes* review as there is no likelihood of success that USAA will succeed on any of the challenged claims.

June 29, 2023

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 Preliminary Response is 13,451. 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 June 29, 2023, this paper – Patent Owner Auto Telematics Ltd’s Preliminary 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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