

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE INC., NEST LABS, INC., and
DROPCAM, INC.,
Petitioners,

v.

e.DIGITAL CORPORATION
Patent Owner.

Case IPR2015-01473
Patent No. 8,311,523

**PATENT OWNER RESPONSE TO PETITION
PURSUANT TO 37 C.F.R. § 42.120**

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Curriculum Vitae of David Hilliard Williams	2006	N
Curriculum Vitae of David Hilliard Williams	2007	N
IP Nexus Biography for David Williams	2008	N
Wireless Location Credentials Summary for E911-LBS Consulting	2009	N
Archived Website of E911-LBS Consulting Printed from https://archive.org	2010	N
Archived Website of E911-LBS Consulting Printed from https://archive.org	2011	N
Archived Website of E911-LBS Consulting Printed from https://archive.org	2012	N
Relevant Portions of the Transcript of Cross-Examination of David H. Williams	2013	Y
U.S. Patent No. 9,002,331	2014	Y
Declaration of Dr. Scott Nettles	2015	Y
Curriculum Vitae of Dr. Scott Nettles	2016	Y
Lane, Nicholas D., <i>et al.</i> , “A survey of mobile phone sensing,” Communications Magazine IEEE 48.9 (2010)	2017	Y
Mühlenbrock, Martin, <i>et al.</i> , “Learning to Detect User Activity and Availability from a Variety of Sensor Data,” Proceedings of the Second IEEE Annual Conference on Pervasive Computing and Communications (PERCOM '04) (2004)	2018	Y
Dey, Anind, <i>et al.</i> , “Towards a Better Understanding of Context and Context-Awareness,” HUC '99 Proceedings of the 1 st International Symposium on Handheld and Ubiquitous Computing, Springer-Verlag London, UK (1999)	2019	Y

I. STATEMENT OF MATERIAL FACTS IN DISPUTE

Petitioner did not submit a statement of material facts in its petition. Thus, no response is due according to 37 C.F.R. §42.23(a).

II. INTRODUCTION

Pursuant to 37 C.F.R. § 42.120, Patent Owner e.Digital Corporation (“Owner”) respectfully submits this Patent Owner Response to the Petition for *Inter Partes* Review of claims 1, 3, 4, 6, 8-10, 19, 21, 23, 25 and 26 of U.S. Patent No. 8,311,523 B1 (“the ’523 patent”) filed by Google, Inc., Nest, Inc., and Dropcam, Inc. (“Petitioners”) (the “Petition”).

Petitioners have the burden of proving unpatentability by a preponderance of the evidence. (35 U.S.C. § 316(e).) The Petitioners’ arguments of unpatentability fail to meet that burden with respect to any of the subject claims of the ’523 patent.

A. Statement of Relief Requested

Owner respectfully requests that the Board find the subject claims of the ’523 patent are not obvious in view of the asserted prior art and are patentable in view of the proposed grounds set forth below and any other papers or oral argument that may be considered by the Board.

B. Summary of Owner's Argument

The testimony of Petitioners' expert, David H. Williams is inadmissible under Federal Rule of Evidence 702 and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (1993) because he is not a qualified expert having the requisite knowledge, skill, experience, training or education. In the alternative Mr. Williams's testimony should be given little to no weight.

Also, the prior art asserted by Petitioners is not the same as the claimed subject matter in that the asserted prior art is solving a different problem than that of the claimed subject matter in a different way. Miluzzo (Ex. GOOG 1007) in view of Robarts (Ex. GOOG 1008), either individually or as combined, does not render the subject claims of the '523 patent obvious as the proposed combination is missing several key claimed elements. In addition, Petitioners' resulting combination appears to be based on impermissible hindsight.

Finally, Miluzzo teaches away from combining with Robarts, and the combination of Miluzzo with Robarts provides no teaching, suggestion or motivation ("TSM") to arrive at the claimed subject matter. Accordingly, all of these reasons provide strong indications of non-obviousness as explained in more detail below.

III. THE OPINION TESTIMONY OF PETITIONERS' EXPERT IS INADMISSIBLE OR, IN THE ALTERNATIVE, SHOULD BE GIVEN LITTLE WEIGHT

A. Mr. Williams Is Not Qualified to Testify As to the Knowledge of a POSA

The Petition relies heavily on the Declaration of David H. Williams. (Ex. GOOG 1003.) However, Mr. Williams's invalidity opinions should be disregarded or in the alternative given little to no weight. As set forth below, Mr. Williams is not qualified to testify as to the knowledge of a person of ordinary skill in the art ("POSA") at the time of the invention.

1. Mr. Williams' Background is in the Area of Location-Based Mobile Applications and Not Contextual Awareness

Mr. Williams confirms that the standard for a POSA relative to this matter is an individual with at least a B.S. degree in Electrical Engineering, Computer Engineering, Computer Science, or an equivalent field, as well as at least 2-5 years of academic or industry experience in mobile communication and context awareness. (Ex. 2013 at 126:8-130:14) (emphasis added).¹ Accordingly, under

¹ The Board will note that this concession differs from the level of ordinary skill in the art advanced by Williams in his declaration, wherein he stated a POSA would need "at least 2-5 years of academic or industry experience in mobile

Williams' own standard, a POSA must have 2-5 years of academic or industry experience in context awareness as of the date of the application for the parent '522 patent. From the record, it is clear that Mr. Williams does not meet this level of ordinary skill in the art.

Mr. Williams relies on his "training, knowledge, and experience" to formulate his opinions. (Ex. GOOG 1003 at ¶ 9.) Yet, almost all of his listed experience from his *curriculum vitae* mentions only location-based services and applications such as GPS and E911; **not** context awareness. (Ex. GOOG 1004 at pp. 2-7.) Although he uses the word "context-aware" in three places in his *curriculum vitae*, his actual work did not involve contextual awareness applications or technologies in any meaningful way.

The entire listed experience from Williams' *curriculum vitae* (Ex. 1004) mentions location-based services and applications such as GPS and E911 and **not** context awareness. (Ex. 1004 at 2-7.) The only low-level engineering design work that he has ever done was once back in 1983-85 working for Hughes on a radar analog to digital convertor. (Ex. 2013 at 14:22-17:11, 138:20-139:6.) Williams stated that he has done some "system" engineering work, but it is unclear how

communication **and/or** context awareness." (GOOG Ex. 1003 at ¶¶ 25-26; *see also* Ex. 2013 at 130:2-11.)

much technical expertise was required or learned. (*Id.* at 20:10-34:7; 38:6-45:5.) What *is* clear is that his engineering work, after obtaining his MBA in 1987 (*id.* at 19:1-20:2), has been focused on only high level design or marketing of location-based services. (*Id.* at 20:10-34:7, 38:6-45:5.) Mr. Williams states in his *curriculum vitae* (Ex. GOOG 1004) that he has expertise in “presence/context-aware applications,” but, as discussed in more detail in the next section, the only experience he has regarding something that, at best, remotely approaches contextual awareness were brief “brainstorming” or “vision strategizing” projects, while working for Nextel in the late 90s. (Ex. 2013 at 58:15-70:17.) Furthermore, it appears that Mr. Williams only added “presence/ context-aware applications” to his resume(s) in late 2015 in order to obtain this position as expert witness for Petitioner. (*Id.* at 74:10-22, 76:15-77:10.) All prior CVs did not list “presence/context-aware applications” on them anywhere. (*Id.*)

Undoubtedly, the reason Mr. Williams states that his location based service experience is contextual awareness experience, is because of his misunderstanding that presence detection (e.g. location applications) is the same as contextual awareness, which is discussed in more detail below. (Ex. GOOG 1003 at ¶ 33.) Mr. Williams does not have first-hand technical knowledge of the relevant art in order to be qualified as an affiant as to a POSA at the time of the invention.

In addition, Mr. Williams has not demonstrated a special knowledge with respect to the level of a POSA in order for his testimony to be acceptable as a patent expert. *See Ex parte Rodgers*, 27 USPQ2d 1738, 1747 (B.P.A.I. 1992). For example, Mr. Williams has no formal or informal education regarding contextual awareness. (Ex. 2013 at 94:8-10.) The only literature it appears that Mr. Williams has read regarding “contextual awareness” was the subject e.Digital patents and some of the documents cited in his declaration. (Ex. GOOG 1003 at ¶¶ 2-6.) None of this would be enough to qualify him as a patent expert in this case.

2. Williams has Little to No Experience with Context Awareness

In his declaration, Mr. Williams details his experience in mobile communications and location based services, but notably does not articulate any work or experience in context awareness. (Ex. GOOG 1003 at ¶¶ 9-15.) During his cross-examination, Mr. Williams was questioned on the use of the word “context-aware” in his CV. Mr. Williams testified that his only experience with context awareness was from an engagement with Nextel in approximately 1997.

During that time, the topic of “context awareness” was purportedly discussed² with third party vendors in connection with a “brainstorming, projections, future projections, that type of visionary type stuff” aimed at potential services, the required technologies for which “far outstripped what was available at that time.” (Ex. 2013 at 58:15-70:17, 92:16-93:10; Ex. GOOG 1004 at p. 3.) No context awareness product or concept was ever implemented as a result of this exercise. (Ex. 2013 at 68:18-69:1 (“no immediate presence concepts were ultimately included in what was essentially a two-year plan”).) In fact, Williams only added the phrase “presence/context-aware applications” to his resume in 2015, admitting, “usually I would either update [my CVs] or modify them based on particular opportunities, and I would use phrases or terms most relevant to those opportunities.” (*Id.* at 74:14-22, 76:15-77:10.)

Accordingly, even if the work Williams did for Nextel in 1997 qualified as true context awareness industry experience, which it does not, it occurred approximately thirteen years before the application for the parent ’522 patent and never went beyond mere brainstorming about technologies that might be available

² Though, as set forth in the next section, it is unclear whether Williams properly understands what is “context awareness,” or whether he understood the concept in 1997.

some time in the future. If this lone piece of experience is ignored, as it should be, absolutely no evidence supports a finding that Mr. Williams has the required 2 – 5 years of academic or industry experience in context awareness to qualify him to testify as to a POSA.

Based on the foregoing, Mr. Williams does not qualify as an expert under Federal Rules of Evidence Rule 702 and *Daubert*. In particular, Mr. Williams has little to no meaningful contextual awareness experience as of the time of the invention. For these reasons, he cannot and should not be allowed to offer evidence as to the knowledge of a POSA at the time of the invention and his testimony should therefore be stricken or disregarded.

B. Mr. Williams’s Lack of Experience Has Led Him to Misunderstand Some of the Art, Leading Him to Critical Errors

1. Williams Wrongly Equates “Presence Detection” with “Context Awareness”

Williams wrongly equates “presence detection” with “context awareness,” without any evidentiary support. (Ex. GOOG 1003 at ¶¶ 33 and 129.) When pressed for support of this statement during cross-examination, Williams could provide none. (Ex. 2013 at 91:1-11 (“I equated them by equating them.”), 189:16-190:1 (“That is my opinion.”).) When asked to cite a specific reference that holds that definition, Williams broadly pointed to Miluzzo. (*Id.*) However, Miluzzo

does not state anywhere that presence detection (sensing) is equal to contextual awareness. (*See* Ex. GOOG 1007, *passim*.)

In fact, presence detection is not the same as contextual awareness. Presence detection has to do with determining a user's presence (activity) based primarily on location information. (*See* Ex. 2018 at p. 6, ¶ 6-7.) Although the term "context" is sometimes used to discuss the user's setting (*id.* at p. 2, Fig. 1; Ex. GOOG 1007 at ¶ [0037] ("[c]ontext is the set of circumstances or conditions that surround a particular sample.")), it should not be confused with context awareness, generally.

Context awareness is defined in the art as something more complex and responsive within which presence detection is a mere component part. (Ex. 2019 at p. 11.) Unable or unwilling to recognize these important technical distinctions between presence detection and contextual awareness, Mr. Williams incorrectly concludes that they are equal. Consequently, he approached his entire analysis and all of his opinions based on his failure, or sheer refusal, to recognize that presence detection and context awareness is not the same thing.

2. Williams Fundamentally Misunderstands or Misrepresents Robarts

Mr. Williams stated in his Declaration that a "POSA would have understood that Robarts' attributes in each theme *have to be unique*, because Robarts' system

uses comparison of attributes *to select one single* appropriate theme.” (Ex. GOOG 1003 at ¶ 142 (*citing* Robarts, Ex. GOOG 1008 at ¶ [0157]).) (Emphasis added.) Mr. Williams’ conclusion that Robarts teaches that one, single theme can be selected from a set of attributes is based on his technical understanding that the system taught by Robarts will not work any other way. During cross-examination, he testified that two themes coming from the same set of attributes would not work. In fact, he testified that in such a case, “the software would blow up in addition to not providing any insight to the user.” (Ex. 2013 at 192:4-19.)

However, Robarts unambiguously states, “multiple themes can simultaneously match the current context.” (Ex. GOOG 1008 at ¶ [0160] and Fig. 15 (step 1515 and step 1530).) Robarts describes how themes match a current context as *candidates for the current theme*. (Ex. GOOG 1008 at ¶ [0157].) One of the ways is that “*all*” or “*some*” of the theme attributes can match the current context. (*Id.* at ¶ [160].) The attributes in themes may also have Boolean logic applied to determine a match.

Robarts further makes it clear that “multiple themes ... can simultaneously” match the current context in Figure 15. (Ex. GOOG 1008 at Figure 15 (step 1515 and step 1530). For example, at step 1515, Robarts uses the words “Determine *themes* that match current context,” suggesting current context information could

match multiple themes. Robarts thus discloses non-unique attribute sets. It is therefore erroneous for Mr. Williams to assume that the attributes of a theme have to be unique in order for a theme to be selected.

Moreover, Robarts describes themes that can be purchased from third parties. (Ex. GOOG 1008 at ¶ [0107].) Certainly, if independent vendors are supplying themes, control over the “matching attributes” is not possible and it is likely many vendors could come up with the same attributes for a theme. (Ex. 2015 at ¶¶ 51-52, 61.)

Robarts mentions at least three ways that themes are selected: 1) user desire, 2) priority setting, and 3) highest degree of match. (Ex. GOOG 1008 at ¶ [0162].) Robarts also mentions using inter-theme logic for controlling selection of which theme or themes to display for the user. For example, in the theme “Driving to Work” shown in Fig. 13, the “time-active” switch (1340) decides if the theme is available for selection or not. In other words, “Driving to Work” could have the same attributes (1370) as “Going to Lunch” shown in Fig. 11H, but which theme gets selected may be due to the “time-active” switch which is outside of the “matching attributes.” (*Id.* at ¶ [0201].)

Mr. Williams’ conclusion that theme “attributes have to be unique” is therefore simply wrong. When pressed about this issue during cross-examination,

he finally admitted that his assumptions were inaccurate. (Ex. 2013 at 199:21-200:13). Ultimately, Williams admitted that a POSA reading Robarts would understand that Robarts teaches that a set of attributes could result in the selection of multiple themes. (*Id.* at 201:7-11.)

It is clear that Mr. Williams does not understand the fundamental teachings of the Robarts prior art. Accordingly, his testimony should, at minimum, be accorded little to no weight.

IV. BROADEST REASONABLE INTERPRETATION OF KEY CLAIM TERMS

Petitioners offer claim constructions for the terms “social template,” “social hierarchy,” and “level of a social hierarchy,” all of which either conflict with and/or are narrower than constructions found by the Court in the related District Court case. (*See* Ex. 2003.) In its Decision granting the present Petition, the Board concluded, “an express construction [of these terms] is not necessary.” Owner disagrees with Petitioners’ proposed constructions of these terms, but asserts a construction of these terms is unnecessary to resolve the issues on this Petition. Solely for purposes of the present action, Owner believes that only the term “unique social signature” require construction in order to resolve the outstanding issues on this Petition.

To the extent the Board concludes that construction of “social template,” “social hierarchy” and “level of a social hierarchy” is necessary, Owner submits its proposed constructions below.

A. “unique social signature”

Owner submits that “unique social signature” should be construed as “social signature associated with a specific social template at the time of processing.” This is the construction that was agreed to by the parties in the related District Court case (see Ex. 2003) and which Owner asserts is the broadest reasonable interpretation of the term (“BRI”).

Claim 1 of the ’523 patent is an exemplary claim and provides in pertinent part:

“a memory which stores social templates, each social template corresponding to a unique social signature comprising a first sensor value range and a second sensor value range other than the first sensor value range...”

The specification of the ’523 patent provides that “each social template could be associated with more than one set of social signatures.” (Ex. 1001 at 17:45-49; *see also* 19:7-10 (referring to “the social signature *or social signatures* associated with each social template” (emphasis added))). The specification further contemplates that social signatures may be periodically updated and/or

associated with different social templates over time by virtue of a “training” embodiment described in the specification and certain claims. (*See, e.g., id.* at 17:18-18:50.) However, by using the term “unique” in the claims, the inventor makes clear that, the social signature must be unique to its corresponding social template at the time it is being processed by the system of the invention.

B. “social template”

The term “social template” should be construed as “data structure associated with a social hierarchy and one or more social signatures.” This is the broadest reasonable interpretation of the term, is the construction agreed to by the parties in the related District Court case (see Ex. 2003), and is the construction adopted by this Board in two related reviews (*see* Case Nos. IPR2015-01471 at p. 7 and IPR2015-01475 at p. 8).

C. “social hierarchy”

The term “social hierarchy” should be construed as “an arrangement of persons and/or operations in a series of levels.” This is similar to the construction adopted by the Court in the related District Court case. Again, Owner believes this is the BRI of that term.

Owner notes that the Board has proposed a construction of the term “social hierarchy” in two related IPR decisions. (*See* Case Nos. IPR2015-01471, Paper

11, at p. 7 and IPR2015-01475, Paper 11, at p. 8.) However, the common specification of the patents as well as certain claims of other patents in the patent family that are not subject to the pending group of IPRs make clear that a social hierarchy is not limited to a hierarchy of people and may involve a hierarchy of operations.

The common specification of disputed patents provides that a “social hierarchy” can include not only persons, but also the quantity, and type of delivery, of information made available to different persons. For example, the specification describes an “emergency” embodiment, wherein members of the various levels of the social hierarchy receive information through different operations:

“By way of example, the social template could be designated for emergency situations, and automatically provide information to the police, fire department, family and/or friends. ***Such communication could be through text messages, emails, computer read messages sent to a voice line***, and, where social networking service and/or microblog are set up, through networking service and microblog updates. In this way, the device 100, 200 would be able to summon help in an emergency situation according to a status sensed from the various device sensors 110, 120, 130, 140.”

(Ex. 1001 at 21:10-20 (emphasis added).)

Moreover, certain claims of U.S. Patent No. 9,002,331 (“the ’331 patent”) expressly disclose a hierarchy of “operations.” (See Ex. 2014 at claims 1, 17 and 21.) Specifically, claim 1 teaches in pertinent part:

“a) a first set of one or more operations to be performed using a first data for a first set of target devices within a first social level, and [¶]
b) a second set of one or more operations, different from the first set of one or more operations to be performed using a second data for a second set of target devices within a second social level.”

(*Id.* at claim 1.)

Here, the social hierarchy of the related ’331 patent is not a hierarchy of people, but of operations. Likewise, the limitation does not require the conveyance or receipt of information. Lastly, while the quoted claim limitation speaks of a “first set of ... operations” and a “second set of ... operations,” the claim is indifferent as to any order. All the claim requires is that the operations between the two levels be different.

Finally, while certain claims throughout the family of patents may contain limitations similar to those contained in Petitioner’s and the Board’s offered constructions, it would be improper to incorporate them into the construction of the broader term “social hierarchy” where the specification and claims from other patents in the patent family contemplate a broader application.

D. “level of [a] social hierarchy”

Despite offering a construction of “social hierarchy,” Petitioners propose a separate construction of the term “level of a social hierarchy.” Owner submits that construction of this term is wholly unnecessary. The term “level” has a plain and ordinary meaning. Furthermore, the parties competing constructions of the term “social hierarchy,” regardless of which construction is adopted, each make clear what would constitute a “level of a social hierarchy” as disclosed by the inventor. Petitioners’ proposed construction of this term, “a grouping of people that receives information,” should be rejected for the same reasons set forth above.

V. MILUZZO DISCLOSES PRESENCE SENSING, BUT IS SILENT AS TO HOW MORE COMPLICATED USER ACTIVITY IS DETERMINED

Miluzzo is concerned with sharing presence sensing, *e.g.*, determining a user’s location in conjunction with a keyboard’s activity. (Ex. GOOG 1007, ¶ [0002].) Miluzzo states “location is a key function in any sensing system.” (*Id.* ¶ [0044].) Miluzzo wants to be able to update presence more frequently and allow more people to see the presence and to inject the presence into more social networks. (*Id.* ¶¶ [0003]-[0004].) Miluzzo suggests in places that it would be useful to sense the presence of a user like “outside of work.” (*Id.* ¶ [0012].) Miluzzo vaguely mentions analyzing the sensed data (*id.* ¶ [0025]), but it does not

say how user activity classification (*e.g.*, the inference engine) is accomplished. This is most likely due to the fact that the scope of the prior art at that time was limited to presence sensing and supervised learning. (Ex. 2017 at 5; Ex. 2015 at ¶¶ 31-32.) Miluzzo is silent about how a more complicated user activity classification, like that described in the '523 patent, would be accomplished.

Petitioner agrees that Miluzzo does not disclose some of the claimed elements, but states that a POSA would look to Robarts to combine and arrive at the claimed subject matter because, they argue, Robarts informs a POSA of how to perform contextual awareness. (Petition for IPR at 37.) However, as shown below, Robarts does not cure the defects of Miluzzo.

VI. KEY ELEMENTS ARE MISSING FROM THE COMBINATION OF MILUZZO AND ROBARTS

Neither Miluzzo nor Robarts teaches or discloses, “each social template corresponding to a unique social signature” as claimed. Petitioners fail to demonstrate how Robarts, or the combination of Miluzzo and Robarts, discloses “each social template corresponding to a unique social signature.” (Petition for IPR at 37-39.) Petitioners’ expert, Mr. Williams, states that this is *assumed* in Robarts, because “attributes in each theme have to be unique because Robarts’ system uses comparison of attributes to select *one single* appropriate theme.” (Ex.

GOOG 1003 at ¶ 142.) However, as discussed above, Mr. Williams’ logic and conclusions are erroneous.

Mr. Williams testified that he read the Owner’s patents before reading Miluzzo and Robarts (Ex. 2013 at 151:18-152:13) suggesting that he used them as a roadmap to come to a conclusion of § 103 obviousness. Since Robarts does not disclose the “unique social signature” element and Mr. Williams persists in trying to create assumptions about its existence, Patent Owner contends Mr. Williams is culpable of prohibited hindsight bias.

In addition, the respective architectures of Robarts on the one part, and Miluzzo and the ’523 patent on the other, are different. Petitioners’ expert concedes that Robarts’ system, unlike Miluzzo and the ’523 patent, starts with themes, which Mr. Williams equates with the “social template” of the ’523 patent. (Ex. GOOG 1008, Fig. 4 and ¶¶ 10 and 80; Ex. 2013 at 164:9-19, 166:3-6.) Robarts’ themes initialize the Context Servers (CS) and Context Clients (CC). (Ex. GOOG 1008 at ¶ [0080].) Then, the CS and CC gather input data based on the theme. (*Id.* at ¶ [0081].) The Characterization (CM) Module stores the input data. (*Id.* at ¶ [0082].) The CC then requests the stored data and analyzes it. (*Id.* at ¶ [0083].) The CC “analyzes all received attributes” in the “theme attribute set.”

(*Id.*) Then the CC “determines a best estimate of the user’s current ... condition.”

(*Id.* at ¶ [0084].)

Robarts, however, does not explain how the CC determines the user’s condition. In fact, Robarts is just as silent about determining user activity as Miluzzo. Robarts says generic things like sensors “may be used by a CC to determine information about the user’s context,” but Robarts never says how the CC does this. (*Id.* at ¶ [0069].) Robarts mentions “various input information can provide context information in a variety of ways.” (*Id.* at ¶ [0057].) Other places that Robarts mentions how the data is used to determine context is vague. For example, Robarts states that “user input,” “stored background,” and “environment information” (*id.* at ¶¶ [0058]-[0060]) can be used to “process” and “create a current model,” but it doesn’t exactly say how. (*Id.* at ¶¶ [0063], [0082].)

When questioned about this, Mr. Williams, in conclusory fashion, assumes that “enough information” was provided to “get to a level of programming.” (Ex. 2013 at 170:14-172:21.) Owner contends Robarts’ listing of what *types* of information that may be used to help determine activity, without any description of *how* to process the information, does not provide a POSA with “enough information” to know how to use or make the CCs, much less to enable one to program a solution.

Mr. Williams does not understand the art or how Robarts works. The theme matching of Robarts does not disclose “each social template corresponding to a unique social signature.” Robarts’ Figure 13, “attribute 1” and “attribute N” (1390) and paragraph [0157], seem to reveal the most about how the attribute values are compared. (Ex. GOOG 1008.) For example, the use of a “Boolean logic” is mentioned. (*Id.* at Figure 13 (“theme-logic” 1365).) Robarts teaches determining “whether a theme matches the current context by ... analyzing multiple attributes ... by using Boolean logic ... or other types of processing.” (*Id.* at ¶ [0157].) Any other reference to how the attributes are compared is only given vague references like “other types of processing.” (*Id.*) Robarts, thus, does not disclose “each social template corresponding to a unique social signature” as claimed.

In order to fully appreciate how different Robarts is from the claimed subject matter, it is worth noting that Robarts’ “attributes” are not equivalent to the claimed “sensor values.” The attributes in Robarts are coming out of the CC’s as processed activities. (Ex. GOOG 1008 at Figure 7.) The attributes listed in Robarts’ Figure 8 are derived activities, *e.g.*, “happiness” or “driving.” (*Id.* at Fig. 8.) While some attributes broadly might be thought of as pass through sensor values (*e.g.*, “body_temperature”), the point is to further demonstrate that Robarts’

process and architecture is doing something fundamentally different than the claimed subject matter and, because of this, the combination is missing key elements as claimed. Accordingly, Robarts does not teach or disclose, inherently or expressed, “each social template corresponding to a unique social signature.”

Based on the foregoing, Miluzzo in combination with Robarts does not disclose “each social template corresponding to a unique social signature” as claimed.

VII. THE COMBINATION OF MILUZZO WITH ROBARTS PROVIDES NO TSM TO ARRIVE AT THE CLAIMED SUBJECT MATTER AND THE RESULTING COMBINATION IS NOT WITHIN THE SCOPE OF THE CLAIMS

Robarts is functionally backwards in conception and operation from the claimed subject matter and Miluzzo. (Ex. GOOG 1008 at Figure 4.) The claimed subject matter monitors an enormous amount of data from sensors or other user-related data (Ex. 1001 at 9:47-14:30) and accurately determines a context of the user by matching a detected social signature (*i.e.*, sensor data) to a single social template out of many social templates.

Miluzzo seeks to solve the problems of sensing data and determining sensed presence. (Ex. GOOG 1007 at Figure 3.) In contrast, Robarts *starts* with a set of themes that are loaded into memory. (Ex. GOOG 1008, Fig. 4 and ¶¶ 10 and 80; Ex. 2013 at 164:9-19, 166:3-6.) Robarts’ system then tells the processors to go out

and gather attributes *dictated by the theme(s)*. (Ex. GOOG 1008, Fig. 4 and ¶ [0081].) Theme sets [i.e. more than one theme is pulled] are polled and lots of data associated with them are analyzed in order to determine what themes are in the “current set.” From the theme set, a single theme (*e.g.*, a cardiac theme) is selected [potentially by the user] and is loaded to act as the current theme. (Ex. GOOG 1008 at Figure 15 (step 1515 and step 1530); *id.* at ¶ [0080].) In other words, Robarts starts with a theme that is loaded into memory. Robarts then teaches polling what data the theme wants to see, and decides what to do in response. Robarts is therefore technically “backwards” from Miluzzo and the claimed subject matter.

Robarts’ architectural scheme is therefore different and much simpler than the claimed subject matter because it controls the amount and type of data that can be used for a theme. Robarts’ architectural scheme is more about providing a user display (*see* Ex. GOOG 1008 at Fig. 11A) with information that the user finds relevant, rather than about the automatic and complex contextual awareness of the subject patent.

Mr. Williams understands that the scope of the ’523 patent claims revolve around a specific architecture (Ex. 2013 at 120:2-12, 120:22-121:8) and acknowledges that Robarts starts with the theme and not sensors (*id.* at 164:9-19,

166:3-6; Ex. GOOG 1008 at Fig. 4 and ¶¶s 10 and 80). However, when confronted with the fact that Miluzzo and Robarts are different and incompatible architectures, he dismisses the problem by stating that it is merely a “design choice” - “a question of order with the same process.” (Ex. 2013 at 165:13-166:11, 180:17-181:10.) As demonstrated below, this statement is further proof that Mr. Williams is incapable of providing accurate testimony as to a POSA, because he does not understand the art or the fact that the architecture (e.g. order of elements as arranged) is important.

A. Miluzzo’s Combination with Robarts is Improper, Because a Suggestion to Combine cannot Require Substantial Reconstruction or Redesign of Prior Art

If the modification of the prior art is too substantial, it is an indication of non-obviousness. *In re Ratti*, 270 F.2d 810 (C.C.P.A. 1959). In order for Robarts’ backwards process and architecture to work with Miluzzo, it would require a complete reconstruction of Robarts. (Ex. 2015 at ¶¶ 47-58.) As noted, this tends to suggest the combination is not obvious.

B. There is no TSM for a POSA to Combine Miluzzo with Robarts

Mr. Williams concedes that Miluzzo does not disclose or teach 1) how to infer user status, 2) where to store user status, 3) how to organize user status, and 4) how to retrieve user status. (Ex. GOOG 1003 at ¶¶ 131, 140, 153, 160, 171.) However, he erroneously asserts that a POSA would be motivated to combine

Miluzzo with Robarts, which Williams wrongly concludes discloses these missing elements.

First, Robarts does not disclose how to infer user status. As discussed above, Robarts does not explain how the CCs determine context (or activity). Thus, a POSA would not look to combine Miluzzo with Robarts. Second, Miluzzo does disclose where to store a user's status. Miluzzo discloses "storage 210" in figure 2. (Ex. GOOG 1007.) Unlike an inference engine, storage is not complicated. A POSA would know storage to mean memory, a hard drive, or disk, or any other well known forms of mobile and server storage mediums. (Ex. 2015 at ¶ 63.) In addition, Miluzzo does disclose how to organize user status, because Miluzzo lists many applications (e.g. MySpace) and "plugins" that use the status. (*Id.* at ¶ [0051].) Lastly, Miluzzo does disclose user status retrieval, because it states that "presence server 116" sends status to applications like "Facebook." (*Id.* at ¶ [0058].) Miluzzo is a complete, functional invention outside of inferring user status. However, the one element a POSA would want to know more about, Robarts does not disclose.

Accordingly, none of the reasons that Mr. Williams provides to combine Miluzzo and Robarts are real, and a POSA would have understood that. The only justification Petitioners' have for combining Robarts with Miluzzo is to satisfy a

post hoc, hindsight obviousness analysis for the purposes of the instant proceedings.

C. The Combination of Miluzzo with Robarts is Inoperable, and Thus, Teaches Away From Combining Miluzzo and Robarts

“A reference teaches away from a combination when using it in that combination would produce an inoperative result.” *In Re ICON Health & Fitness, Inc.*, 496 F.3d 1374 (Fed. Cir. 2007). As discussed above, Miluzzo cannot be combined with Robarts and still be operable. On a lower design level, they are both silent as to how a user status or user activity is inferred. On a higher design level, individually, they present incompatible processes and architectures. Thus, Robarts teaches away from combining which is an indication of non-obviousness.

In summary, the claimed subject matter, with its elements as arranged, is outside the scope of Miluzzo combined with Robarts. A POSA wanting to determine fine-granularity of many activities based on large amounts of input data, would not look to the combination for a variety of valid reasons.

VIII. DEPENDENT CLAIM 3 IS NON-OBVIOUS GIVEN MILUZZO IN VIEW OF ROBARTS AND IN FURTHER VIEW OF LUO

A. Miluzzo, Robarts and Luo are Missing key Elements of the Claimed Social Hierarchy

Miluzzo shares the same information to others. Specifically, Miluzzo shares the “presences” sensed in an “on/off” type fashion. (Ex. GOOG 1007 at ¶ [0025].)

Although Miluzzo discusses data disclosure “per-user, per-group, or global” (*id.* at ¶ [0053]), the information being shared in [0053] is a web-based application “plug-in” data that is not related to or in response to the presence detected. Rather, it is about a specific web based application that can share, for example, photos or location traces. (*Id.* at ¶¶ [0051]-[0054].) Miluzzo does not disclose a “social hierarchy” as claimed. (*See* Ex. 1001 at 16:33-17:3.)

Robarts does not disclose a “social hierarchy” as claimed either. Robarts discloses privacy settings. (Ex. GOOG 1008, ¶ [0203].) The information that is shared from the theme is the same information and the privacy setting is like Miluzzo in that it is an “on/off” type setting. Neither Miluzzo nor Robarts disclose or teach that differing levels of related information based on a selected social template and corresponding associated social hierarchy.

Petitioner claims that it would have been obvious given Robarts’ “three levels” of privacy settings in view of Miluzzo’s web based data sharing based on group settings to have the claimed subject matter of Claim 3. (Petition for IPR at 47.) However, the claimed subject matter comprises non-obvious complexity. (Ex. 2015 at ¶¶ 65-71.)

B. Claim 3’s “social hierarchy” involves non-obvious complexity; and the elements in combination do not merely perform the function that each element performs separately

Dependent Claim 3 recites in part as follows:

“...a first social hierarchy level which provides one level of information as selected in the retrieved social template, a second social hierarchy level which provides another level of information as selected in the retrieved social template, and a third social hierarchy level which provides a further level of information as selected in the retrieved social template...”

Both Miluzzo and Robarts disclose and teach a simple “on/off” privacy type sharing in response to the presence sensed or current theme. In contrast, Claim 3 has varying levels of information being shared that relates to the specific social template selected. (*See* Ex. 1001 at Table 2.)

Moreover, Luo describes privacy levels. (Ex. GOOG 1017 at p. 2, ¶ III.) However, the privacy models that Luo describes are the same type of privacy levels already mentioned in Miluzzo and Robarts.

Claim 3 of the ’523 patent, claims a complex system that determines fine-granularity of user activities and in response can share information based on the specific social template and associated hierarchy. For example, a social template of “... Mother-and-baby-sleeping” will result in a father having location, duration of state, and estimated sleep time. While a friend may be shared the fact that the

baby is sleeping, and work may be shared “Do not disturb.” (*Id.* at 16:27-66.) However, a different social template selected such as a “car crash” will result in the time of impact and location being sent to emergency workers. While an alert of the crash may be sent to family and friends. (*Id.* Col. 21:15-24.)

The claimed subject matter is significantly more complex than having multiple privacy settings that share on/off information. Thus, key elements are missing from the combination of Miluzzo, Robarts and Luo. In addition, Claim 3 involves non-obvious complexity, the elements of which, in combination, do not merely perform the function that each element performs separately.

IX. CONCLUSION

Miluzzo and Robarts, individually or combined, are missing key claimed elements as arranged. Moreover, Petitioners’ proposed combination does not render the claimed subject matter obvious. Thus, the subject claims are patentable and the Petition fails to establish by a preponderance of the evidence that any of the subject claims are unpatentable. Accordingly, the claims should be confirmed under 35 U.S.C. § 316.

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CERTIFICATE OF SERVICE

The undersigned certifies that a copy of the forgoing **PATENT OWNER RESPONSE TO PETITION PURSUANT TO 37 C.F.R. § 42.120 and related Exhibits 2013-2019** was served by e-mail to mikem-PTAB@skgf.com and mholoubek-PTAB@skgf.com on March 23, 2016, and served by sending a copy by FedEx overnight directed to the attorneys of record for the Petitioner at the following address on March 24, 2016:

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