

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 Nos. IPR2015-01470, -01471, -01472, -01473, -01474, and -01475

**DECLARATION OF SCOTT M. NETTLES IN SUPPORT OF PATENT
OWNER RESPONSE TO PETITION PURSUANT TO 37 C.F.R. § 42.120**

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I, Scott M. Nettles, declare as follows:

I. Introduction

1. I have been retained on behalf of e.Digital Corporation (the “Patent Owner” or “Owner”) for the above-captioned *Inter Partes* Review (IPR) proceedings.

2. I am being compensated for my time in connection with this IPR at my standard hourly consulting rate. I have no personal or financial stake or interest in the outcome of the present proceeding.

3. This declaration is submitted in support of Patent Owner’s responses in each of the above-captioned proceedings. I understand that U.S. Patent No. 8,311,522 B1 (“the ’522 patent”) is the parent of each of the other disputed patents and that the other disputed patents are direct continuations of the ’522 patent. I further understand that, aside from information covering the relationship of the continuation patents to the ’522 patent, the respective specifications of each of the disputed patents are essentially identical. For the sake of efficiency, I cite only to the ’522 patent in this declaration, but understand that the same information is contained in each of the disputed patents.

II. List of Documents Considered

4. In preparing this Declaration, I have reviewed and am familiar with, among other things, the following materials:

- The '522 patent;
- U.S. Patent No. 8,306,514 B1 (“the '514 patent”);
- U.S. Patent No. 8,311,523 B1 (“the '523 patent”);
- U.S. Patent No. 8,311,524 B1 (“the '524 patent”);
- U.S. Patent No. 8,315,618 B1 (“the '618 patent”);
- U.S. Patent No. 8,315,619 B1 (“the '619 patent”);
- International Patent Publication No. WO 2009/043020 A2 to Miluzzo *et al.*, entitled “System And Method For Injecting Sensed Presence Into Social Networking Applications” (“Miluzzo”) (Ex. GOOG 1007);
- U.S. Patent Publication No. US2006/0004680 A1 to Robarts, *et al.*, entitled “Contextual Responses Based On Automated Learning Techniques” (“Robarts”) (Ex. GOOG 1008);
- The subject Petition for *Inter Partes* Review of the '522 Patent (Paper No. 1);
- Patent Owner’s Preliminary Response to the subject Petition for *Inter Partes* Review of the '522 Patent (Paper No. 8);
- The Decision Instituting *Inter Partes* Review of the '522 Patent (Paper No. 11);
- The Declaration of David H. Williams filed in support of the

subject Petition for *Inter Partes* Review of the '522 patent (Ex. GOOG 1003);

- The Deposition/Cross-Examination of David H. Williams taken on March 15, 2016 in this matter (relevant portions of which are submitted as Ex. 2013);
- The claim construction order entered in *e.Digital v. Dropcam*, Case No. 3:14-cv-04922-JST (Ex. 2003);
- “Towards a Better Understanding of Context and Context-Awareness”, Anind K. Dey and Gregory D. Abowd, HUC '99 Proceedings of the 1st International Symposium on Handheld and Ubiquitous Computing, Springer-Verlag London, UK (1999) (Ex. 2019);
- “Learning to Detect User Activity and Availability from a Variety of Sensor Data,” Martin Mühlenbrock, Oliver Brdiczka, Dave Snowden, Jean-Luc Meunier, Proceedings of the Second IEEE Annual Conference on Pervasive Computing and Communications (PERCOM '04) (2004) (Ex. 2018);
- “A Survey of Mobile Phone Sensing,” Nicholas D. Lane, Emiliano Miluzzo, Hong Lu, Daniel Peebles, Tanzeem Choudhury, and Andrew T. Campbell, Communications

Magazine IEEE 48.9 (2010) (Ex. 2017);

- “Multi-Sensor Context-Awareness in Mobile Devices and Smart Artifacts,” Gellersen *et al.*, Mobile Networks and Applications v.7 n.5, p.341-351, October 2002 (“Gellersen”) (Ex. GOOG 1009);
- “A Privacy Framework for Mobile Health and Home-Care Systems,” Kotz, *et al.*, SPIMACS '09 (Nov. 13, 2009) (“Kotz”) (Ex. GOOG 1011);
- Patent Publication No. US 2008/0140650 A1 to Stackpole, entitled “Dynamic Geosocial Networking,” published June 12, 2008 (Ex. GOOG 1013);
- “Wearable Computing and Contextual Awareness,” T. Starner, Ph.D. thesis, MIT Media Lab., Apr. 30, 1999 (“Starner”) (Ex. GOOG 1015);
- “Designing for privacy in ubiquitous computing environments,” V. Bellotti and A. Sellen, In Proc. European Conference on Computer-Supported Cooperative Work, Milano, Italy, September 1993 (“Bellotti”) (Ex. GOOG 1016); and
- “On Protecting Private Information in Social Networks: A Proposal,” Luo, *et al.*, Data Engineering, ICDE '09. IEEE 25th

International Conference on March 29 - April 2, 2009 (“Luo”)

(Ex. GOOG 1017).

5. I have also considered the viewpoint of a person of ordinary skill in the art prior to September 28, 2010. I am familiar with the technology at issue as of the September 28, 2010, the effective filing date of the parent ’522 patent. I am also familiar with the level of ordinary skill in the art with respect to the technology at issue as of the September 28, 2010.

III. My Background and Qualifications

6. In formulating my opinions, I have relied upon my training, knowledge, and experience in the relevant art. A copy of my current *curriculum vitae* is provided as Ex. 2016 and provides a comprehensive description of my academic and employment history over the last thirty-plus years.

7. I attended Michigan State University from 1977 to 1981 as a Merit Scholar and an Alumni Distinguished Scholar, and received a bachelor’s degree in Chemistry. I later attended Carnegie Mellon University from 1988 to 1995, during which time I received both a master’s degree (1992) and a Ph.D. (1996) in Computer Science. My dissertation was entitled “Safe and Efficient Persistent Heaps” and focused on high performance automatic storage management for advanced database systems.

8. Before earning my Ph.D., I worked for over four years in industry at

Silicon Solutions, Inc. and Digital Equipment Corporation, developing computer aided design (CAD) software for the semiconductor and computer sectors. For example, I designed and implemented systems for VLSI mask generation and VLSI design rule checking. I also built the first graphical drawing editor for the X window system, Artemis, which included a sophisticated graphical user interface.

9. I have worked as a professor at three universities since 1995: the University of Pennsylvania, the University of Arizona, and The University of Texas at Austin. I was the recipient of a National Science Foundation CAREER award for “CAREER: Advancing Experimental Computer Science in Storage Management and Education” while I was an Assistant Professor at the University of Pennsylvania. During this time, I also was part of the DARPA-funded SwitchWare project, which was one of the pioneering groups in the area of Active Networking (“AN”). My group developed PLAN, the first domain-specific programming language for programmable packets, as well as PLANet, the first purely active inter-network.

10. I joined the faculty of The University of Texas at Austin (“UT”), in the Department of Electrical and Computer Engineering in 1999. In 2005, I was appointed Associate Professor with tenure. At UT, I continued to develop AN technology and in 2002, my Ph.D. student, Michael Hicks, won the ACM SIGPLAN dissertation award for our joint work on software updating.

11. Along with my Ph.D. student, Seong-kyu Song, I focused my AN work on mobile and wireless networking. As a result, my research shifted away from AN to mobile and wireless networking in general, especially interactions between the network, the radios, and the physical world. My most recent research involves the development of Hydra, which is a working prototype of an advanced software-implemented WiFi network funded primarily by NSF.

12. My CV contains an extensive listing of my teaching experience, but a summary is useful. At all three universities my teaching responsibilities spanned undergraduate, graduate, and Ph.D. level instruction. Most recently, at the undergraduate level, I generally teach our second programming class (Intro to Java), Operating Systems, and Networking. At the graduate level I have generally taught networking or computer architecture. At the PhD level, in addition to individual instruction, I have recently regularly taught and advanced seminar most recently labeled "Wireless and Mobile Networking." This class is a seminar in which the students read papers and then do group projects with reports and presentations on topics of interest. One of my colleagues, Christine Julien, works in part in the area of context awareness. Her students regularly took this class and did projects in this area.

13. In the spring of 2013, I left my full time position at UT and I now work as a consultant and expert witness.

IV. Legal Principles

A. Claim Construction

14. I understand that claims are construed from the perspective of a person of ordinary skill in the art at the time of the claimed invention (“POSA”). I further understand that, during *inter partes* review, claims must be given their broadest reasonable interpretation (“BRI”) in light of the specification of the subject patent, which means that the words of the claims should be given their broadest possible meaning consistent with the specification of the subject patent. I also understand that the BRI used here may be different from the interpretation that a POSA may give to the claims in another context—*e.g.*, in litigation—and that the broadest reasonable interpretation may be informed by the construction advanced by a patentee in litigation.

B. Obviousness

15. I understand that an obviousness analysis involves comparing a claim to the prior art to determine whether the claimed invention would have been obvious to a POSA in view of the prior art and in light of the general knowledge in the art at the time of the invention. I also understand that when a POSA would have reached the claimed invention through routine experimentation, the invention may be deemed obvious.

16. I also understand that combining or modifying the teachings of the

prior art can establish obviousness. Specific teachings, suggestions, or motivations to combine any first or primary prior art reference with a second prior art reference can be explicit or implicit, but must have existed before the subject patent was filed. I understand that prior art references themselves may be one source of a specific teaching or suggestion to combine features of the prior art, but that such suggestions or motivations to combine art may come from other sources as well. Specifically, the sources may include logic, judgment, and common sense available to a POSA rather than explicit statements in the prior art. I understand that it is not proper to combine references when there is a teaching away of such a combination. However, a reference's mere disclosure of more than one alternative does not constitute teaching away from any of these alternatives.

17. I further understand that whether there is a reasonable expectation of success from combining references in a particular way is also relevant to the analysis. I understand there may be a number of rationales that may support a conclusion of obviousness, including:

- Combining prior art elements according to known methods to yield predictable results;
- Substitution of one known element for another to obtain predictable results;
- Use of known technique to improve similar devices (methods, or

products) in the same way;

- Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
- Choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
- Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art; or
- Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art teachings to arrive at the claimed invention.

18. I understand that it is not proper to use hindsight to combine references or elements of references to reconstruct the invention using the claims as a guide. I understand that so-called objective considerations may be relevant to the determination of whether a claim is obvious. Such objective considerations can include evidence of commercial success caused by an invention, evidence of a long-felt need that was solved by an invention, evidence that others copied an invention, or evidence that an invention achieved a surprising result. I understand that such evidence must have a nexus, or causal relationship to the elements of a

claim, in order to be relevant to the obviousness or non-obviousness of the claim.

19. I understand that, for a reference to be used to show a claim is obvious, the reference must be analogous art to the claimed invention. I understand that a reference is analogous to the claimed invention if the reference is from the same field of endeavor as the claimed invention, even if it addresses a different problem, or if the reference is reasonably pertinent to the problem faced by the inventor, even if it is not in the same field of endeavor as the claimed invention. I understand that a reference is reasonably pertinent based on the problem faced by the inventor as reflected in the specification, either explicitly or implicitly.

V. Level of Ordinary Skill in the Art

20. I understand that a person of ordinary skill in the art is one who is presumed to be aware of all pertinent art, thinks along conventional wisdom in the art, and is a person of ordinary creativity.

21. Applying the above understanding, it is my opinion that, as a general matter, a POSA at the time of the filing of the parent '522 patent would have 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.

22. This differs from the definition given by Petitioners' expert witness,

David H. Williams, in his declaration in support of the Petition, to the extent I propose the phrase “mobile communication *and* context awareness” as opposed to “mobile communication *and/or* context awareness.” However, I understand that, at his deposition, Mr. Williams agreed with this change and that a POSA must have 2-5 years academic or industry experience in mobile communications and context awareness. (*See* Ex. 2013 at 126:8-130:11.)

23. This difference is important because “mobile communication” is a very broad term covering a variety of technologies, many of which are very mature, and “context awareness” is a much narrower concept and one of recent vintage. As a result, in many cases “mobile communication” experience is not relevant to the specialized field of context awareness, while experience in areas closely related to context awareness may be highly relevant.

24. As an example, it is undeniable that the design of RF transceivers is a crucial aspect of mobile communications and is at the heart of what we would call “cell phone” technology. However, experience in transceiver design does not fully inform the kind of understanding needed by a POSA in the field of the invention of the subject patents. As another example, although GPS is a key enabling technology for some aspects of “context,” a POSA would only know how to use GPS as a black box sensor and detailed experience concerning the internal functioning of the GPS device would not be useful. Thus, expertise and experience

in GPS, although apparently relevant at first blush, is not particularly applicable to the issue of “context awareness.”

25. Conversely, the idea of “context awareness” is new and fairly narrow. The idea did not simply appear out of a vacuum, but rather is an outgrowth of (or really just a part of) mobile and/or ubiquitous computing. Experience in those areas or in the closely related area of mobile networking or in the larger parent areas of computer networking and distributed systems would be highly relevant.

26. As a final point concerning what kinds of experience is required, general or peripheral experience in the area of mobile communications and context awareness, *e.g.*, in a marketing or planning role is not sufficient. A POSA’s experience would need to be in actually designing, implementing, and testing (and not merely assembling) systems of the sort described in the patent. I would further expect that, given the inventions likely embodiment in software that that strong programming experience would be highly relevant.

VI. Context Does Not Equal Presence

27. Context is not simply “presence” as articulated by Mr. Williams in his Declaration. Williams equates “presence detection” with “context awareness,” without evidentiary support. (*See* Ex. GOOG 1003 at ¶¶ 33 and 97.) Williams explained in his deposition that the correlation of presence detection with context awareness was a determination he came up with on his own. (*See* Ex. 2013 at

91:1-11 (“I equated them by equating them.”), 189:16-190:1 (“That is my opinion.”).)

28. I disagree with Mr. Williams. A POSA would understand that teachings related to presence detection are more about the location of the user or mobile computing device and less about their surroundings. Even Petitioners’ references make clear that context is more than just presence. In “The importance of ‘context in mobile devices’” by Gellersen (GOOG 1009, Abstract, p. 1), context is expressed in much greater detail as the reference to the physical world that surrounds a mobile device. Specifically, Gellerson states that “[c]ontext is what surrounds, and in mobile and ubiquitous computing the term is primarily used **in reference to the physical world that surrounds the use of a mobile device.**” (Ex. GOOG 1009 at p. 2 (emphasis added).)

29. Similarly, Anind Dey and Gregory Abowd in their paper, “Towards a Better Understanding of Context and Context-Awareness,” define context as “any information that can be used to **characterize the situation of an entity. An entity is a person, place, or object that is considered relevant to the interaction between a user and an application**, including the user and applications themselves.” (Ex. 2019 at 3-4 (emphasis added).) They describe context in terms of “the situation” of an entity.

30. One skilled in the art would therefore understand that presence,

although a component of context awareness is not the same thing as context awareness.

VII. Overview of the Disputed Patents

31. The parent '522 patent issued on November 13, 2012 pursuant to an application filed September 28, 2010. The other disputed patents are direct continuations of the '522 patent, share a common specification, and, though they may differ in ways not relevant here, they share the same basic architecture as the '522 patent.

32. The state of the art in September 2010 was limited to presence sensing and supervised learning as described by Lane, Nicholas D., *et al.*, in “A survey of mobile phone sensing.” (Ex. 2017 at 5, 7.) Essentially, the use of mobile communication devices and other sensors to consider and interpret conditions within their surroundings was nascent and developing.

33. In very general terms, the subject patents concern systems and methods (1) using a set of sensors to gather data and information about the surrounding environment, (2) classifying an activity, event, or other characteristic(s) about the environment surrounding the sensing device(s) based on that sensor data or other information based on sensor data, and (3) automatically providing specifically tailored information and/or operations based on that classification.

34. The systems of the patents claims begin when a processor assembles the retrieved sensor data and/or other information based on the sensors (*e.g.*, map or location data derived from a comparison of GPS sensor data and non-sensor data such as Google Maps) into what the patent refers to as a “detected social signature.” (’522 patent at 9:24-10:67, 13:36-45, and *passim*; *see also id.* at Claim 1 (“creates a detected social signature from the received sensor data”).)

35. A processor then compares the data within the detected social signature to a “static and/or dynamic rule set,” which the patent refers to as a “social template.” (*Id.* at 11:1-2; *see also* 18:63-19:3 and Fig. 3; claims 1 (“processor ... determines which of the social signatures of the stored social templates has a greatest correspondence with the created social signature through comparison of the first and second detected sensor values and the first and second sensor value ranges of each stored social template) and 17.)

36. The “social template” provides a set of parameters and/or information against which the data of the detected social signatures can be compared. For example, the specification of the patents describes an embodiment in which a location sensor provides data on the location of a device (“39.78° N, 104.88° W”), inertial sensor data shows no movement, an optical sensor provides data consistent with low light levels (“223 lm”), and an acoustic sensor provides data consistent with low sound levels (“-63 db”). (*Id.* at 16:14-18.) Compiled together, this data

set is the “detected social signature.” (*Id.* at 16:14-18; *see also* Claim 1.)

37. A processor then compares the detected social signature with the parameters of one or more social templates stored in memory to determine the closest match – in this example, the social template for “mother and baby sleeping” is selected. (*Id.* at 16:18-23.) An example of what information the selected social template might comprise is depicted at Table 1 of the specification. (*Id.* at 15:48-58, shown below.)

TABLE 1

do-not-disturb-due-to-Mother-and-baby-sleeping social signature		50
Sensor	Value range	
Location	39.78° N, 104.88° W ±5 m	
Inertial	0 m/s ² ± .2 m/s ²	55
Optical	223 lm ± 15 lm	
Acoustic	-63 db ± 5 db	

38. The specification refers to the sensor value ranges of Table 1 as “the social signature of the social template.” (*Id.* at 16:18-20.) These “social signatures of the social template” are “unique” to the “social template” to which they are associated at the time of processing.

39. The social template can be associated with a “social hierarchy.” (*See, e.g., id.* at 1:59-2:4, 3:63-4:6, Claim 3 and *passim.*) The associated “social

hierarchy” can be comprised of people, social networks, emergency services, and/or operations (e.g. email, text message, pre-recorded voice messages), etc. (See, e.g., *id.* at 2:39-45 (hierarchy composed of social networks); 15:59-16:13 (hierarchy composed of people); 21:4-14 (emphasis added); and 21:19-24, 21:28-33, 21:38-44 (hierarchy composed of operations).) The “social hierarchy” is organized such that the processor can provide different levels of information to each level of the hierarchy based upon which social template is selected. (See, e.g., *id.* at 1:59-2:4, 3:63-4:6, Claim 3 and *passim.*) An example of a potential social hierarchy is shown in Table 2 in the specification, shown below. (See *id.* at 15:60-16:13.)

TABLE 2

		60
	do-not-disturb-due-to-Mother-and-baby-sleeping social hierarchy	
	Social Hierarchy	Information
	First Social Hierarchy Level-Father	Provide information on location, duration of state, and estimate of baby sleep time
	Second Social Hierarchy Level-Friend	Provide information on baby sleeping
10	Third Social Hierarchy Level-School, Work	Do not disturb except in emergency
	Fourth Social Hierarchy Level-Strangers	Do not disturb

40. Thus, if the “social template” for “do-not-disturb-due-to-Mother-and-baby-sleeping” is selected in the above example, any communication requests would be handled according to the operations and authorizations set forth in Table 2. (*Id.*)

VIII. The Combination of Miluzzo and Robarts

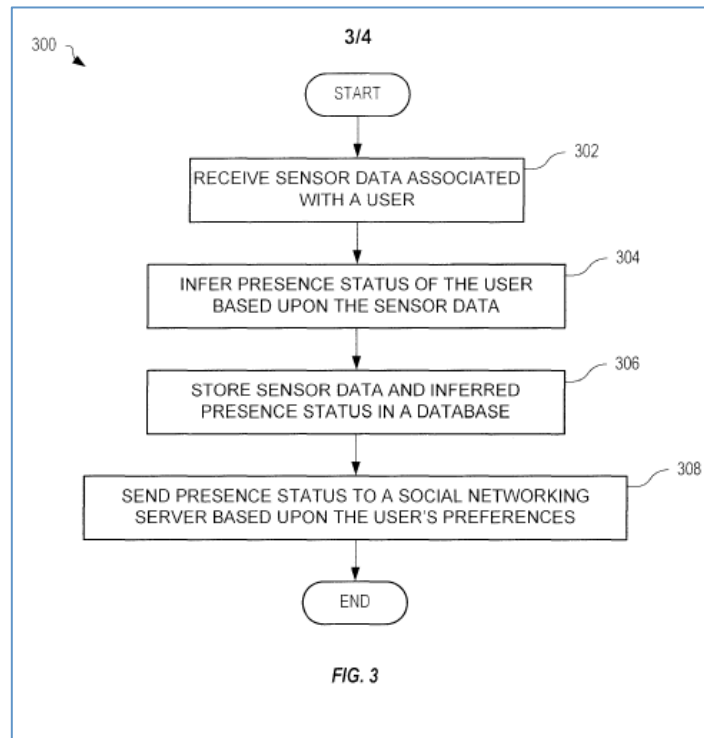
A. Miluzzo

41. Miluzzo does not explicitly disclose specifics of how it infers a user’s status from sensor data, however, contrary to Mr. Williams’ assertion, it does teach where to store, and how to organize and retrieve, a users' status or privacy settings.

42. 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 update presence more frequently and allow more people to see the presence and to inject the presence into social networks. (*Id.* ¶¶ [0003]-[0004].)

43. Miluzzo suggests that it would be useful to sense the presence of a user like “outside of work.” (*Id.* ¶ [0012].) Miluzzo mentions analyzing sensed data (*id.* ¶ [0025]), but does not say how user activity classification (e.g., the inference engine) is accomplished.

44. The architecture of Miluzzo is best expressed in Fig. 3 shown below. There, like the subject patents, the system starts with sensor data that, in the case of Miluzzo, is associated with a user.



45. Next, an inference engine is used to “infer the presence status of the user” from the received sensor data.

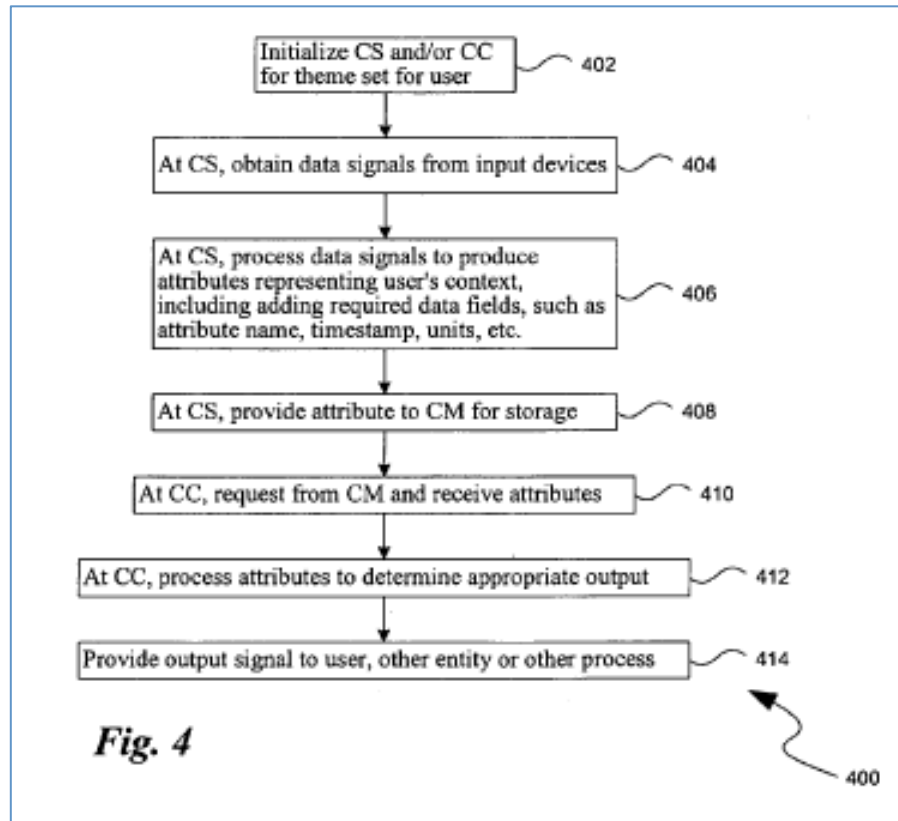
46. Miluzzo then stores the sensor data and inferred presence status for later use and distributes the presence status based on the “user’s preferences.” Basically, the distribution is along the lines of privacy policies set by the user.

B. Robarts

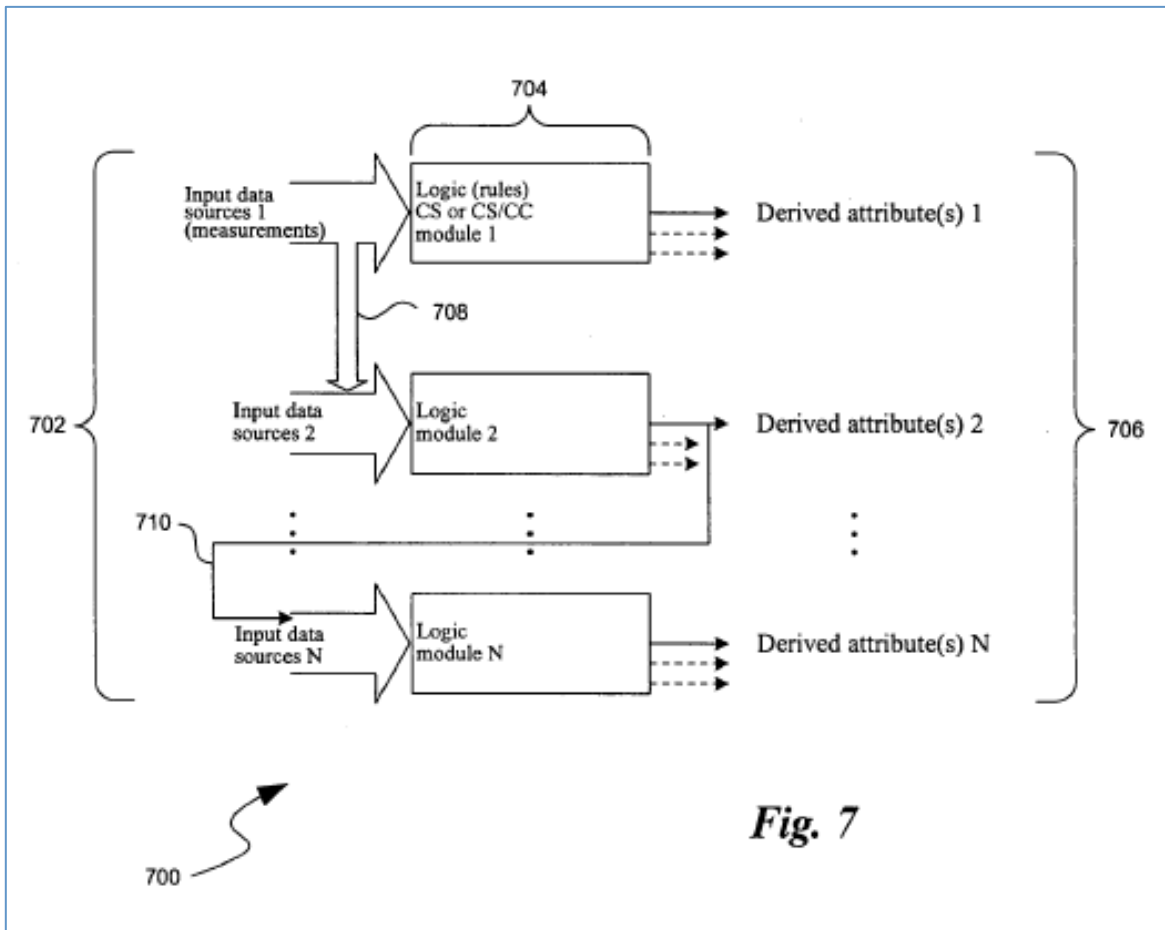
47. Robarts, on the other hand, teaches an approach that starts with the selection of “themes” as opposed to data collected from sensors. Robarts’ process

is expressed in Fig. 4, depicted below, which begins with a “theme” at step 402.

(See also, Ex. GOOG 1008 at ¶ [0080].)



48. Themes in Robarts include “related sets of attributes that reflect the context of the user, including: (1) the user’s mental state, emotional state, and physical or health condition; (2) the user’s setting, car.” (GOOG 1008, ¶ [0040].) Attributes in Robarts are the product of the Context Server as described in Fig. 7, shown below.

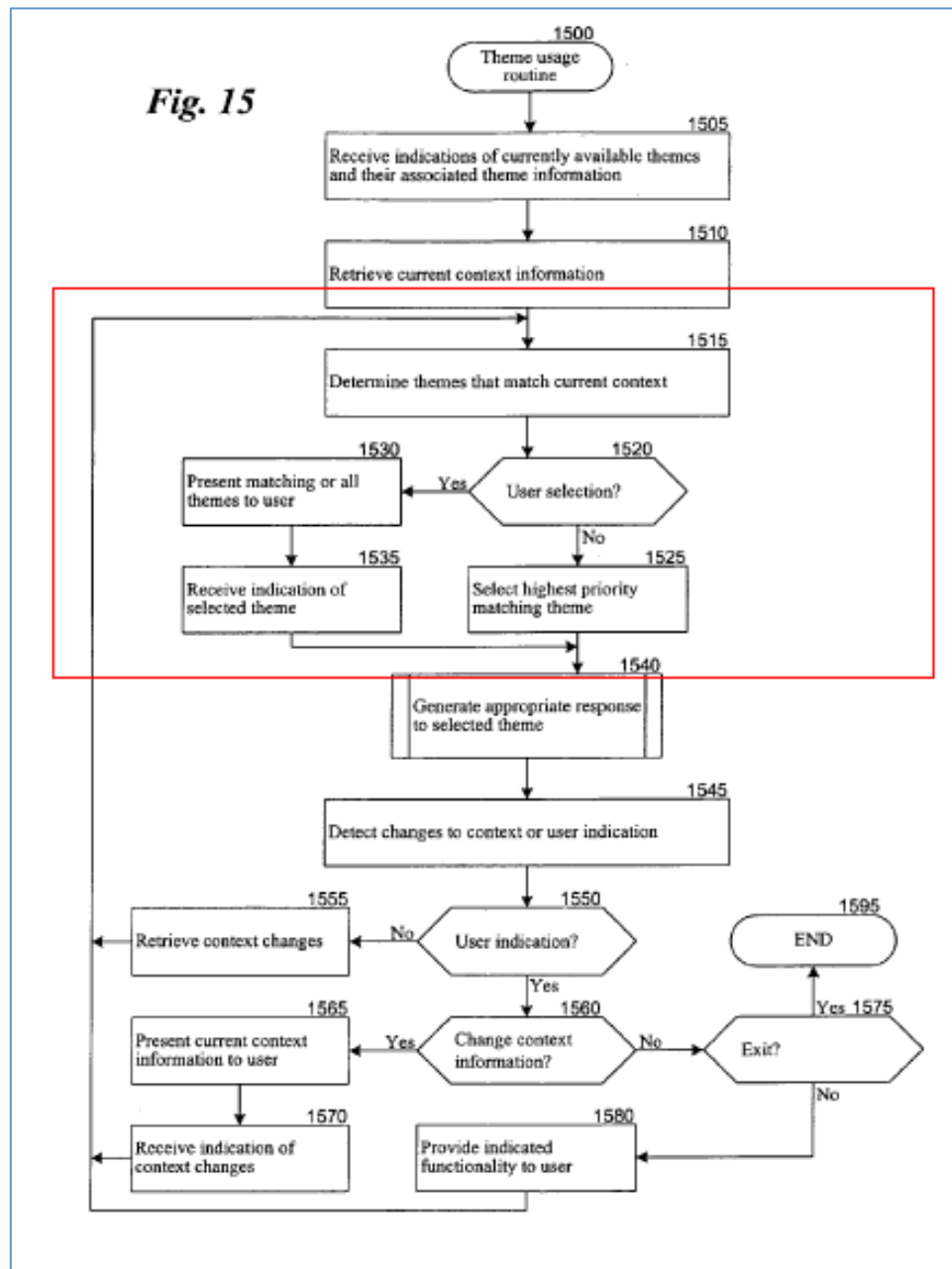


49. Roberts' Fig. 7 discloses that data enters the Context Server at step 702 and is processed by Logic at step 704 before becoming attributes.

50. However, Roberts does not disclose the process that occurs in the Logic (704) that results in the creation of an attribute. (*See Ex. GOOG 1001 passim*).

51. Looking at Fig. 15 (shown below) of Roberts, at step 1505, Roberts determines the availability of themes first, before applying any attributes to them (step 1510). Roberts then determines which themes match the current context (step 1515). These themes may have been created by the user or may have even been

purchased from third party vendors (Ex. GOOG 1008, ¶ [0201]). The user may decide to select a theme as shown in step 1520 below, or a theme may be selected automatically according to the “highest priority” (step 1525). (*See also id.* at Fig. 17, step 1730.)



C. Miluzzo's Combination with Robarts is Improper Because a Suggestion to Combine cannot Require Substantial Reconstruction or Redesign Of The Way It Uses Themes

52. Miluzzo seeks to solve the problem of sensing data and determining sensed presence. (Ex. GOOG 1007 at Figure 3.) In contrast, Robarts starts with the context (themes in memory or purchased from third party vendors) then uses processed attributes to populate a display with information for the user. (Ex. GOOG 1008, Fig. 4 and ¶¶ 10, 80; Ex. 2013 at 164:9-19, 166:3-6.)

53. Robarts' system essentially pre-selects themes, then tells processors to go out and gather attributes relevant to the pre-selected theme(s) to determine which themes are in the "current set."

54. From the theme set, a single theme is selected and is loaded to act as the current theme (*e.g.*, a "cardiac" theme), potentially by the user - a process that does not involve the system at all. (Ex. GOOG 1008 at Figure 15 (step 1515 and step 1530); *id.* at ¶ [0080].)

55. Robarts' process thus operates in the reverse manner from Miluzzo and the disputed patents and is therefore "backwards" in a technical sense from these other systems.

56. Robarts' architectural scheme is fundamentally different and simpler than Miluzzo's or the claimed subject matter since the theme in Robarts is determinative of the amount and type of data that needs to be used to provide the

requisite information. Miluzzo and the disputed patents, on the other hand, use data from sensors to drive an understanding of the surrounding context without a preconceived notion as to the result.

57. Robarts' scheme is therefore more about providing a user a display (see Ex. GOOG 1008 at Fig. 11A) with information that the user may find relevant, rather than about determining complex contextual awareness and providing information or taking action to a hierarchy.

58. Because the processes of Robarts and Miluzzo flow in opposition directions, combination of the two references is impossible without a complete restructuring of the process of one or the other of the references.

D. The Combination of Miluzzo and Robarts is Missing the “Unique Social Signature” of the Disputed Patents

59. The disputed claims of the patents at issue in these IPRs require a memory that stores social templates corresponding to unique social signatures, which in the disputed patents, are comprised of sensor value ranges against which the detected social signature is compared in order to arrive at a context classification. (*See, e.g.*, '522 patent at Abstract, claim 1 and *passim*.)

60. Robarts on the other hand allows multiple themes to match the same attributes. (Ex. GOOG 1008 at ¶ [0160].) By teaching attributes that can match multiple themes, Robarts effectively teaches away from the “unique social signature” of the disputed patents.

61. In addition, attributes in Robarts are selected to identify themes that match a “current context.” (*Id.* at ¶ [0160].) A POSA would understand that it would be impossible to control “matching attributes” if independent vendors are supplying themes. It is very likely that vendors could come up with the same attributes for different themes, again resulting in non-unique social signatures.

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

62. I understand that Petitioners assert 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. However, a POSA would not be motivated to combine Miluzzo with Robarts because Robarts does not disclose how to infer user status, and Miluzzo – contrary to Petitioners’ assertions – does in fact disclose the other purportedly missing components.

63. Robarts does not explain how the Context Clients (“CCs) determine context (or activity) and Miluzzo already discloses “storage 210” in figure 2. (Ex. GOOG 1007.) Unlike an inference engine, storage is not complicated. A POSA would therefore know storage to mean memory, a hard drive, or disk, or any other well known forms of mobile and server storage mediums. Miluzzo also discloses how to organize user status as evidenced by the fact that Miluzzo lists several applications (e.g. MySpace) and “plugins” that use status. (*Id.* at ¶ [0051].) Miluzzo also discloses user status retrieval. It states that “presence server 116”

sends status to applications like “Facebook.” (Id. at ¶ [0058].) Miluzzo is therefore a complete, functional invention apart from explaining the functionality of its “inference engine.”

64. Accordingly, a POSA would have understood that there is no reason to combine Miluzzo with Robarts. The only justification Petitioners’ would have for combining Robarts with Miluzzo is to satisfy a *post hoc*, hindsight obviousness analysis.

F. The “Social Hierarchy” of the Dependent Claims Involves Non-obvious Complexity

65. I understand that Petitioners assert that the combination of Miluzzo and Robarts renders certain dependent claims of the disputed patents obvious. These dependent claims include claims covering a form of “social hierarchy” described in, for example, dependent claim 3 of the ’522 patent, dependent claim 3 of the ’523 patent, dependent claim 5 of the ’524 patent, dependent claim 3 of the ’618 patent, and dependent claim 3 of the ’619 patent.

66. Both Miluzzo and Robarts disclose and teach a simple “on/off” privacy type sharing in response to the presence sensed or current theme.

67. Robarts provides that there is a “user’s desired scope of audience for information being output.” (Ex. 1008 at ¶ [0065].) The user in Robarts sets privacy and audience permissions and scope. (*Id.*, *see also id.* at ¶ [0100].)

68. Miluzzo teaches the use of pre-determined privacy policies and buddy

lists. (Ex. 1007 at ¶ [0052].) The only discussion Miluzzo offers of a more refined dissemination of information about a user's context is in ¶ [0053] in a vague reference to the "Virtual Walls" model without further elaboration of how to implement it.

69. The above-referenced dependent claims on the other hand teach varying levels of information being shared that relates to a specific social template selected. (*See, e.g.*, Table 2 of the disputed patents.)

70. For example, a social template for a "Mother-and-baby-sleeping" social signature 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." ('522 patent at 16:27-66.) However, a different selected social template, such as a "car crash," might result in detailed information being sent to emergency services, such as time of impact and location, while a separate alert of the crash may be sent to family and friends. (*Id.* at 21:15-24.)

71. The claimed subject matter of these dependent claims therefore allows for significantly more complex distribution of information than would basic privacy settings that share on/off information as taught by Miluzzo and Robarts. For these reasons, key elements are missing from the combination of Miluzzo and Robarts.

IX. Conclusion

In signing this declaration, I recognize that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross-examination in the case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear at the allotted time and agreed place.

I hereby declare that all the statements made herein are of my own knowledge and are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code.

Executed this 23rd day of March 2016 in San Francisco, California.

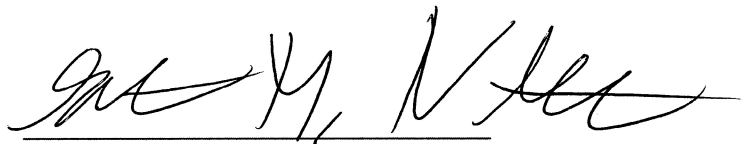
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