UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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LULULEMON ATHLETICA CANADA INC. and LULULEMON USA INC.
Petitioner

v.

NIKE, INC.
Patent Owner

_____

Case IPR2023-00180
Patent 10,232,220

_____

DECLARATION OF ROBERT STONE, PH.D.
IN SUPPORT OFPATENT OWNER NIKE, INC.'S RESPONSE

lululemon athletica inc. et al. v. Nike, Inc.
IPR2023-00180
Patent No. 10,232,220
Ex. 2001

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I, Robert Stone, Ph.D. declare as follows:

I. INTRODUCTION

1. I have been retained by Nike, Inc. ("Nike") as an independent expert in this *Inter Partes* review ("IPR") proceeding before the Patent Trial and Appeal Board, which I understand involves U.S. Patent No. 10,232,220 (the "'220 patent"). I have been asked to opine on technical issues related to the patentability of the '220 patent. My areas of expertise include the technological field in which the '220 patent resides.

2. I understand that this proceeding involves claims 11–14 and 19–20, with claims 12–14 and 19–20 depending from claim 11. I further understand that lululemon athletica canada inc. and lululemon usa inc. (collectively, "lululemon") raises five grounds in the Petition for *Inter Partes* Review based on combinations of the following purported prior art references.

Reference	Abbreviation
U.S. Patent Application Publication No. US 2010/0273610 A1	"Johnson" (Ex. 1004)
U.S. Patent Application Publication No. US 2009/0150178 A1	"Sutton" (Ex. 1005)
webpages from www.plus3network.com	"Plus 3 Website Pages" (Ex. 1006)
Martha Fry (@MarthaFry), Twitter (January 5, 2009, 3:34 PM), https://twitter.com/MarthaFry/status/1098244147	"Fry" (Ex. 1007)

3. I understand that the grounds are as follows:

Ground	35 U.S.C. §	Claims	References
1	102	11–13, 19	Johnson
2	102	11–12, 19–20	Sutton
3	103(a)	11–12, 19–20	Sutton
4	103(a)	11–14, 19–20	Sutton, Plus 3 Website Pages
5	103(a)	12	Sutton, Fry

4. I have been asked to provide opinions for each of the grounds asserted in the Petition. My opinions are set forth below.

5. This declaration is based upon the information presently available to me. Should additional information become available, I hereby reserve the right to supplement my opinions based upon information that may subsequently become available, which may include a review of information that may be produced, or from testimony or deposition that are subsequently taken.

6. The opinions set forth in this declaration are based on my personal knowledge and experience, my professional judgment, and my analysis of the materials and information referenced in this declaration, including the ’220 patent (Ex. 1001), its prosecution history, and other materials listed as exhibits to the petition in IPR2023-00180.

II. BACKGROUND AND EXPERIENCE

7. I received a B.S. in electrical engineering from Virginia Polytechnic Institute and State University in 1977, a M.S. in electrical engineering from Virginia Polytechnic Institute and State University in 1979, and a Ph.D. in electrical

engineering from Stanford University in 1981.

8. I have over 40 years of academic and industry experience in the field of medical electronics systems and instrumentation, including experience in both implantable and external drug delivery systems design. Examples of my pertinent experience are set forth herein, with additional experience described on my CV.

9. In addition, I have real-world, firsthand experience in designing wearable devices for monitoring patient parameters including skin temperature, EKG (electrical activity of the heart), respiratory rate and ventilation, and body position and activity using accelerometers. These devices have been incorporated into a garment named the eShirt® which is in the process of commercialization. The garment has utilized various forms of communication, including Bluetooth and WiFi, to inform wearers and care providers of the wearers health and fitness status and to alert of unusual circumstances.

10. I am a named inventor on 49 published patents and patent applications in the U.S. and worldwide relating to a variety of medical devices, including audiometric devices, methods of determining blood constituents, acoustic coupling devices, methods and apparatuses for detecting optical pulses, end-tidal carbon monoxide monitor filters, and methods and apparatuses for calculating arterial oxygen.

11. I am a member of several professional organizations, including the

Institute of Electrical and Electronics Engineers (IEEE), the International Society for Optics and Photonics (SPIE), and the American Nuclear Society.

12. From November 2011 to the present, I have been employed as the Chief Executive Officer by Medical Design Solutions, Inc., a company I founded. At Medical Design Solutions, I am responsible for all phases of product development, including concept definition, prototyping, design, evaluation, patenting, and technology licensing of various types of medical devices. It is at Medical Design Solutions where I have designed several of the projects described earlier relating to and incorporating press-stud connectors.

13. I am currently serving as a Professor of Practice of Biomedical Engineering at Virginia Polytechnic Institute and State University. I have previously taught mechanical engineering courses at Virginia Polytechnic Institute and State University (September 1981 to September 1983).

14. My curricula vitae is appended hereto as Appendix A.

15. My opinions are based on my experience as a person of ordinary skill in the art at the time of the invention of the ’220 patent, which I have been asked to assume is August 9, 2010. My opinions are also based on my knowledge and experience working with others who were persons of ordinary skill in the art at the time of the invention of the ’220 patent.

III. COMPENSATION AND PRIOR TESTIMONY

16. I have been qualified as an expert and admitted to testify in both state and federal courts. My curricula vitae (Appendix A) contains a list of cases in which I have provided testimony in the last four years. To the best of my knowledge, no court has ever excluded or prohibited me from providing trial testimony as an expert witness.

17. I am being compensated at my standard rate of $450/hour. My compensation does not depend in any way on the outcome of the matter or my opinions.

IV. MATERIALS CONSIDERED

18. All my opinions are based on my knowledge and professional judgment, and the following documents that I considered:

- lululemon's Petition for *Inter Partes* Review of U.S. Patent No.10,232,220;
- Exhibits 1001–1015;
- Institution Decision in IPR2023-00180 [Paper No. 11]; and
- All other materials discussed herein.

V. LEGAL UNDERSTANDING

19. I am not an attorney. For the purposes of this declaration, I have been informed about certain aspects of the law that are relevant to my opinions. My understanding of that law is summarized below.

20. I understand from counsel that, in this IPR, lululemon has the burden of proving a proposition of unpatentability by a preponderance of the evidence. I have been informed that, in an IPR proceeding, a patent claim may be unpatentable under theories of anticipation and/or obviousness.

21. I understand from counsel that, in the context of an IPR, the prior art may include patents or printed publications. I also understand that the phrase "printed publication" means publications sufficiently accessible to the public interested in the art and depends upon dissemination and accessibility.

22. I understand from counsel that a patent claim may be unpatentable as anticipated if each element of that claim is present either expressly or inherently in a single prior art reference.

23. I understand from counsel that a patent claim may be unpatentable if the claimed invention would have been obvious to persons having ordinary skill in the art in the field of the technology of the patent at the time the invention was made. A claim that is obvious may be unpatentable even if all of the requirements cannot be found in a single prior-art reference.

24. I understand from counsel that obviousness is analyzed from the perspective of a hypothetical person of ordinary skill in the art ("POSITA") at the time of the alleged invention. I also understand that a POSITA is presumed to have been aware of and be able to understand the disclosures of all pertinent prior art at

the time of the invention of the patent at issue. I understand from counsel that this concept refers to a person who is trained in the relevant technical field of a patent without possessing extraordinary or otherwise exceptional skill. I further understand that factors such as the educational level of those working in the field, the sophistication of the technology, the types of problems encountered in the art, prior art solutions to those problems, and the speed at which innovations are made may help establish the level of skill in the art. I understand from counsel that the level of skill of the persons of ordinary skill is to be assessed at the time of the claimed invention.

25. I understand from counsel that an obviousness analysis involves comparing a claim to the prior art to determine whether the claimed invention as a whole would have been obvious to a POSITA in view of the prior art and in light of the general knowledge in the art at the time the invention was made. I also understand that the invention may be deemed obvious when a POSITA would have reached the claimed invention through routine experimentation.

26. I understand from counsel that one may establish obviousness by combining or modifying the disclosures of the prior art to achieve the claimed invention, provided there is a reason to modify or combine the prior art to achieve the claimed invention. In making such a combination, I understand from counsel that there must separately be a reasonable expectation of success to render the

claimed invention obvious. I understand from counsel that the reason to combine prior art references can come from a variety of sources, not just the prior art itself or the specific problem the patentee was trying to solve.

27. I understand from counsel that 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. Most, if not all, inventions rely on building blocks of prior art. The challenger of a patent's validity must prove that, at the time of the claimed invention, there was a reason that would have prompted a person having ordinary skill in the field of the invention to combine the known elements in a way the claimed invention does, taking into account such factors as:

a) whether the claimed invention was merely the predictable result of using prior art elements according to their known function(s);

b) whether the claimed invention amounted to nothing more than using a known technique to improve similar devices or methods in the same way;

c) whether the claimed invention provides an obvious solution to a known problem in the relevant field;

d) whether the prior art teaches or suggests the desirability of combining elements claimed in the invention;

e) whether the prior art teaches away from combining elements in the claimed invention;

f) whether it would have been obvious to try the combinations of elements, such as when there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions; and

g) whether the change resulted more from design incentives or other market forces.

28. I understand from counsel that when relying on a combination of two or more references to show obviousness, a proper analysis generally requires a reason (i.e., motivation) that would have prompted a person of ordinary skill in the art at the time of the invention to combine the elements of multiple prior art references in the way the claimed invention does. I understand from counsel that the prior art references themselves may provide a suggestion, motivation, or reason to combine, but that other times the means of linking two or more prior art references is simple common sense. I further understand that obviousness analysis recognizes that market demand, rather than scientific literature, often drives design trends, and that market factors may provide a motivation to combine references.

29. I understand from counsel that if there are fundamental differences between prior art references such that a proposed obviousness combination of those prior art references would require alteration of the principles of operation of one or more of such prior art references then a POSITA would not have been motivated to

pursue this combination.

30. To find the invention obvious in light of a prior art combination, the prior art combination must have provided a reasonable expectation of success. For example, if a patent challenger's proposed obviousness combination would render an assembly that is inoperable for its intended purpose, the patent challenger has not established a reasonable likelihood of success in that instance. Likewise, I understand from counsel if there are fundamental differences between prior art references such that a proposed obviousness combination of those prior art references would render an inoperable combination then a POSITA would not have been motivated to pursue this combination.

31. I also understand from counsel that the obviousness combination cannot come from hindsight recognition of the benefits or advantages of the combination. Rather, I understand from counsel that, to assess obviousness, one must place oneself in the shoes of a POSITA in the relevant field of technology at the time of the alleged invention who is trying to address the issues or solve the problems faced by the inventor. One must then consider only what was known at the time of the invention and ignor the knowledge currently held of the inventions. I understand from counsel that the claims of the patents at issue cannot be used as a roadmap to reconstruct or piece together the prior art. I understand from counsel that, to assess obviousness, you must place yourself in the shoes of a POSITA who

is trying to address the issues or solve the problems faced by the inventor, considering only what was known at the time of the invention and ignoring the knowledge you currently have of the inventions. For example, an assertion that something could be done does not articulate a reason why something would be done by a POSITA at the time of the invention and, therefore, raises a specter of impermissible hindsight bias in an obviousness analysis.

32. I understand from counsel that when there is some recognized reason to solve a problem, and there are a finite number of identified, predictable solutions, a POSITA may have reason to pursue the known options within his or her technical grasp. If such an approach leads to the anticipated success, it is likely not the product of innovation, but rather of ordinary skill and common sense. In such a circumstance, when a patent simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious.

33. Finally, I understand from counsel that the U.S. Patent and Trademark Office ("USPTO") may rely upon certain example rationales in reviewing patent applications to understand whether the subject matter of the claims is obvious. I understand from counsel that the following is the list of exemplary rationales relied upon by patent examiners at the USPTO:

a) Combining prior art elements according to known methods to yield predictable results;

b) Simple substitution of one known element for another to obtain predictable results;

c) Use of a known technique to improve similar devices (methods, or products) in the same way;

d) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;

e) "Obvious to try" – Choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success.

34. I also understand from counsel that, to construe the meaning of a claim term, the PTAB will first look to the claim language itself and its usage in context with other claim terms. I understand from counsel that the PTAB will defer to the ordinary and customary meaning that the terms would have to a person of ordinary skill in the art at the time of the invention.

35. I also understand from counsel that the PTAB will look to intrinsic evidence if the meaning of the term to a person having ordinary skill in the art at the time of the invention is not apparent. I understand from counsel that this intrinsic evidence includes the context of the works in the claim, the specification of the patent, and the prosecution history of the patent and that the specification is

considered the single best guide to the meaning of a disputed term. I understand from counsel that, while the specification is to be used to interpret terms presented in a claim, it is impermissible to import limitations from the specification into a claim.

36. I understand from counsel that if the meaning of a term is clear from the claim language and the intrinsic evidence, the claim construction must stop there. I understand from counsel that in instances where the meaning cannot be determined based on intrinsic evidence alone, that additional extrinsic evidence may be considered. Even if extrinsic evidence is considered, I understand from counsel the claim construction may not be inconsistent with the construction mandated by the intrinsic evidence.

VI. LEVEL OF ORDINARY SKILL IN THE ART

37. I understand that lululemon claims that a POSITA for the ’220 patent would have had (1) a bachelor’s degree in engineering, computer science, industrial design, biomechanics, or a related field, and (2) at least two years of experience researching, developing, designing, and/or testing fitness or physiological sensors, wearable devices, physiological or biomechanical devices, remotely-controlled systems or interfaces, and/or network-based applications and/or equipment, or the equivalent experience or education. Petition at 22–23.

38. For purposes of this declaration, I am accepting lululemon’s

description of a POSITA. My agreement with the above description of a POSITA does not imply agreement at all times moving forward. I reserve the right to supplement my opinion.

39. In view of my experience and qualifications noted above, I was a POSITA at the time of the invention and am well positioned to opine as to what a POSITA at the time of the invention would have understood and done.

40. My opinions contained herein are from the perspective of a POSITA. My opinions reflect how a POSITA would have interpreted the claims, the prior art, and any available evidence.

VII. TECHNICAL BACKGROUND

A. The ’220 Patent

41. The ’220 patent concerns athletic performance monitoring and tracking. Ex. 1001, Abstract. Before the invention disclosed in ’220 patent, “individuals might not be as motivated to exercise because of the extra effort that may be required in recording and tracking workout results.” *Id*., 1:29–31. The ’220 patent discloses methods and apparatuses that make it easier to record and track workout results. In one example, “a user may record and track athletic activity using a mobile device having multiple types of location determination systems such as a global positioning system (GPS) and an accelerometer or other types of devices (e.g., pedometer) not dependent on remote systems.” *Id*., 1:55–60. Then, the “data

recorded by the mobile device (e.g., GPS data or accelerometer data) may be synchronized with [a] remote network site to alleviate storage requirements of the mobile device." *Id*., 2:31–34. The user may also be presented with an option to share the recorded data to a social networking site, where the user may receive motivational feedback from other users. *Id*., 2:63–3:9, 3:35–50, 46:28–30.

42. Independent claim 11 is copied below with limitations 11A–11E identified:

> 11. An apparatus comprising:
>
> [11A] a processor; and
>
> [11B] a non-transitory, computer-readable medium storing computer-readable instructions that, when executed, cause the apparatus to:
>
> [11C] record athletic activity performed by a user;
>
> [11D] receive a sharing option selection configured to allow the recorded athletic activity to be shared; and
>
> [11E] in response to receiving the sharing option selection, transmitting workout information associated with the recorded athletic activity to a network page of a social networking site viewable by one or more other users.

Id., 68:15–28.

B. Prior Art

1. Johnson

43. lululemon argues that Johnson (U.S. Patent Publication No. 2010/0273610, Ex. 1004) discloses "word-for-word much of the '220 patent's

written description." Petition at 1. But the '220 patent contains disclosure that is not in Johnson,. For example, Johnson does not include Figures 35A–C of the '220 patent, which depict an apparatus "record[ing] athletic activity" as claimed. Ex. 1001, Figs. 35A–C. Johnson also does not include Figures 54A–C or 55A–B of the '220 patent, which show the sharing of workouts in response to receiving sharing options. Ex. 1001, Figs. 54A–C and 55A–B.

2. Sutton

44. Sutton (U.S. Patent Publication No. 2009/0150178, Ex. 1005) is directed to "[a] method and system for tracking physical metrics in a social commerce system." Ex. 1005, Abstract. Sutton teaches creating a rewards system which provides benefits to a user in return for exercising. *Id*., ¶ 23. Physical accomplishments are translated to a currency that "may be traded in a market provided by the present system and method and in other conventional online and offline markets as well." *Id*., ¶ 27. For example, a "[u]ser 101's cause may be a charitable cause (e.g., Safe Routes to Schools program) toward which user 101 earns points and matching donations from partner 120." *Id*., ¶ 29. In another example, the user compensation is "carbon offsets obtained as a result of user 101's activity and exercises (e.g., commute by bicycle)." *Id*., ¶ 33.

3. Plus 3 Website Pages

45. The "Plus 3 Website Pages" is a compilation of webpages connected

to the "Plus 3 Network." *See* Ex. 1006. The Plus 3 Network is a "social network that actively manages, motivates, validates, and rewards our members for participating in fitness activities." *Id*., 9.

4. Fry

46. Fry is a tweet describing a workout. Ex. 1007.

VIII. CLAIM CONSTRUCTION

47. I have been asked to explain my understanding of the ordinary and customary meaning of two claim terms: "record," and "in response to receiving the sharing option selection." My analysis is provided below.

A. "record"

48. In my opinion, a POSITA would understand that the ordinary and customary meaning of "record," as used in claim 11 and when properly viewed in light of the claims and specification, means "measure or capture, and then save." As I explain below, this understanding of "record" in claim 11 is consistent with (1) claim 1 in the '220 patent; (2) the specification of the '220 patent; and (3) the stated purpose of the invention claimed in the '220 patent.

1. The language of claim 1 supports construing "record" in claim 11 to mean "measure or capture, and then save"

49. Claim 1 makes clear that "record" is used synonymously with "measure or capture, and then save." It is my understanding that claim terms are presumed to have the same meaning in all claims, so "record" must mean "measure

or capture, and then save" in claim 11 as well.

50. Claim 1 recites a method in which "recorded" "athletic activity data" is received from an "athletic activity monitoring system." Ex. 1001 at 67:12–14 ("A method comprising: receiving, from an athletic activity monitoring system, athletic activity data recorded during an athletic activity performed by a first user . . . ."). The "athletic information monitoring device" described in the '220 patent "incorporate[s] a sensor or multiple sensors for measuring parameters relating to the person being monitored." *Id*., 8:50–53. "[A]thletic information [is] obtained from an individual person" using this athletic monitoring device. *Id*. Figure 2 of the '220 patent "illustrates one example of an athletic information monitoring device 201 that may be employed according to various examples of the invention to measure athletic information corresponding a user's athletic activity." *Id*., 11:24–27. Therefore, when claim 1 recites to a monitoring system that "recorded" "athletic activity data," in my opinion, a POSITA would understand that claim 1 is using "record" to mean "measure or capture, and then save." That is, it means "measuring parameters" using "a sensor or multiple sensors." *Id.*, 8:50–53, 67:12–14. I understand that the term "record" in claim 11 should have the same meaning: "measure or capture, and then save."

2. The specification of the ’220 patent supports construing “record” in claim 11 to mean “measure or capture, and then save”

51. I understand that the proper claim construction is based not only in the context of the particular claim in which the disputed term appears, but also in the context of the entire patent, including the specification. The specification of the ’220 patent also indicates to a POSITA that “record” is used in claim 11 to mean “measure or capture, and then save.” The word “record” may, in the abstract, have multiple meanings, but the specification uses “record” to mean “measure or capture, and then save.”

52. There are many examples of this. For one, the specification uses “record,” “recorded,” and “recording” to describe an action done by an “athletic parameter ***measurement*** device 207.” Ex. 1001, 11:44–48 (emphasis added). The specification explains that the apparatus uses measurement devices—including GPS devices and accelerometers—to “record” athletic activity data. Ex. 1001, 19:59–61 (“[t]he inclusion of GPS device 713 and accelerometer 715 in a single mobile device 700 allows device 700 to ***record*** athletic activity data in multiple workout settings.”); 1:60–62 (“By using both a GPS device and an accelerometer, the mobile device may record workout data for both indoor (e.g., stationary) workouts and outdoor workouts.”); 20:10–15 (“For example, if device 700 determines that the individual’s location is not changing, accelerometer 715 or

recording data therefrom may be activated and used (again, the device might always be active, but recording data from the device is turned on and off)." Similar disclosures can be found throughout the specification. *See, e.g.*, *id.*, 20:31–36, 22:11–13, 26:7–9, 36:26–32, 41:3–6, 41:21–24, 41:56–59, 51:62–65, 57:22–26, 59:6–9.

53. A POSITA would understand that "recorded" in claim 1 requires more than merely writing data to memory. The specification explains that it is the "athletic data display configuration device" (601), not the "athletic activity monitoring system" (201) recited in claim 1, that writes athletic data to memory. "[A]thletic activity data recorded" by the athletic information monitoring device 201 is transmitted to the athletic information collection and display device 501, which includes the athletic data collection module 505. *Id*., 16:4–6. ("As shown FIG. 5, the athletic information collection and display device 501 includes an interface 503 for receiving data from the athletic information monitoring device 201."). "Once the athletic data collection module 505 has collected the processed signals provided by the athletic information monitoring device 201, the athletic data collection module 505 transmits the athletic data set to an athletic data display configuration device 601 through an interface module 507." *Id*., 17:1–5. "The athletic data display configuration device 601 [] includes . . . an athletic data storage 607." *Id*., 17:44–46. It is here where the system "store[s] the athletic data in the

athletic data storage 607 for future use." *Id*., 17:50–53. Thus, it is my opinion that a POSITA would understand in view of the specification that it is the "athletic data display configuration device" (601), not the "athletic activity monitoring system" (201) that writes athletic data to memory.

3. The purpose of the invention supports construing "record" in claim 11 to mean "measure or capture, and then save"

54. I understand that the term "record" should be understood consistently with the '220 patent's express purpose: to measure athletic activity and thereby motivate the user. Ex. 1001, 1:29–35. An interpretation of "record" that means only saving or storing data would be incorrect because it conflicts with the invention's purpose. I understand that a patent's express purpose of the invention informs the proper construction of claim terms.

55. The '220 patent criticizes prior art systems that required manual entry of athletic activity data. For example, the specification discloses that "individuals might not be as motivated to exercise because of the extra effort that may be required in recording and tracking workout results," including the need to "manually enter workout information such as a number of miles run, a route run, an average heart rate and the like, into a database in order to track his or her progress." Ex. 1001, 1:29–35. In my opinion, this disclosure would lead a POSITA to understand that the invention requires more than merely saving manually entered workout information—it also requires measuring or capturing athletic activity with

an athletic information monitoring device.

56. For all the reasons above, it is my opinion that a POSITA would understand that the ordinary and customary meaning of "record," as used in claim 11 and when properly viewed in light of the claims and specification, means "measure or capture, and then save."

B. "in response to receiving the sharing option selection"

57. A POSITA would understand that the ordinary and customary meaning of "in response to receiving the sharing option selection," as used in claim 11 and when properly viewed in light of the specification, means "in response to receiving an individual user command or confirmation to share the recorded athletic activity."

58. The specification of the '220 patent does not use the phrase "in response to receiving the sharing option selection"—but the specification does use the term "in response to receiving" once. Ex. 1001, 46:21–23. The specification uses that term in the same context as the term is used in claim 11. Specifically, it is part of a discussion regarding sharing workout information to a social networking site. *Id.* The disclosure appears in the description of Figures 55A and 55B, which "illustrate[] example interfaces for sharing workout/run information according to one or more aspects described herein." *Id*., 7:9–11. Interface 5501 (illustrated in Fig. 55B) allows the user to log into the social networking site. *Id*., 46:21–23.

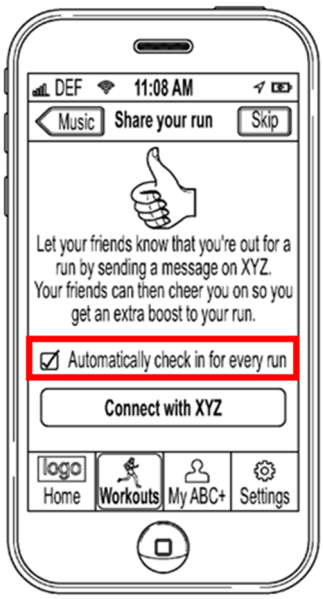


FIG. 55A (annotated)

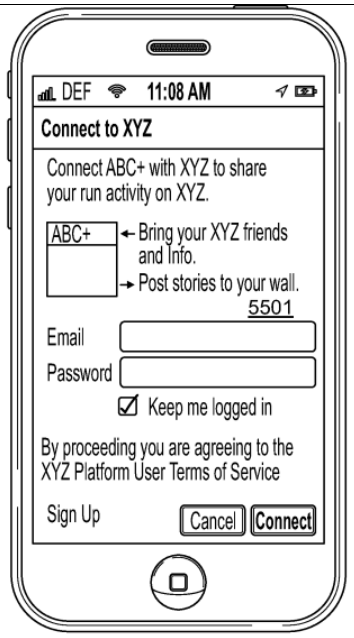


FIG. 55B

Ex. 1001 at Figs. 55A–55B.

59. The passage discusses two distinct types of sharing: an "automatic" sharing; and a sharing "in response to receiving a user command or confirmation." Ex. 1001, 46:26–30. First, in the "automatic" scenario, the specification discloses that, when a "user is logged in, the system may ***automatically*** share new run information through the information outlet." *Id.*, 46:26–27 (emphasis added). The highlighted checkbox in FIG. 55A above displays this "automatic" sharing feature. Second, the passage states that there also a separate type of sharing in which information will "only be shared ***in response to receiving*** a user command or confirmation." *Id.*, 46:28–30 (emphasis added).

60. A POSITA would understand that claim 11 recites only this second

type of sharing. Claim 11 recites "transmitting workout information associated with the recorded athletic activity to a network page of a social networking site" "***in response to receiving*** the sharing option selection." *Id.*, 68:24–28. The specification shows a clear division between "automatic" sharing and sharing "in response to receiving the sharing option selection." As a result of this division, a POSITA would understand the term "in response to receiving the sharing option selection" in claim 11 to exclude "automatic" sharing. The term "in response to receiving the sharing option selection" in claim 11 must exclude automatic sharing. Any construction of "in response to receiving the sharing option selection" that could include the automatic sharing option would be contrary to specification.

61. For these reasons, it is my opinion that the Board should construe "in response to receiving the sharing option selection" in claim 11 to have the ordinary meaning that is consistent with the specification, i.e., "in response to receiving an individual user command or confirmation to share the recorded athletic activity."

IX. LULULEMON HAS NO SHOWN THAT ANY CLAIMS ARE UNPATENTABLE

62. It is my opinion that lululemon has not shown by a preponderance of the evidence that any claim of the '220 patent is anticipated or obvious.

A. Ground 1: lululemon Fails To Show That Johnson Anticipates the Challenged Claims

1. lululemon fails to show that Johnson discloses an apparatus that "record[s] athletic activity performed by a user" [11C]

63. In my opinion, lululemon's petition does not show that Johnson discloses an apparatus that "record[s] athletic activity performed by a user." Ex. 1001, 68:21. Instead, lululemon relies on Johnson's disclosure of an apparatus that merely saves athletic activity. *See* Petition, 25, 27–28.

64. In my opinion, the "apparatus" that lululemon identifies in Johnson—device 601—does not measure or capture athletic activity. *See* Petition, 25. As I discuss above, the proper understanding of record in claim 11 is "measure or capture, and then save." But, device 601 is an "athletic data ***display*** configuration device." Ex. 1004, ¶¶ 86–87 (emphasis added). As such, Johnson's device 601 does not "record" data. It only receives and displays athletic activity data that it "receives" from a separate "collection" device. *Id*. As I explained above, this is not "recording" under the meaning as would be understood my a POSITA—"measure or capture, and then save." lululemon explains that "[d]evice 601 records user athletic activity ***by writing it to memory***." *Id.*, 28 (emphasis added). But, a POSITA would understand that "writing [data] to memory" is different than capturing or measuring, and then saving the athletic activity. *Id*.

65. For at least this reason, in my opinion, lululemon fails to show that

Johnson discloses an apparatus that "record[s] athletic activity performed by a user." Ex. 1001, 68:21.

2. lululemon does not show that Johnson discloses an apparatus that "transmit[s] workout information associated with the recorded athletic activity to a network page of a social networking site viewable by one or more other users" "in response to receiving the sharing option selection" [11E]

66. In my opinion, lululemon does not show that Johnson discloses an apparatus that "transmit[s] workout information associated with the recorded athletic activity to a network page of a social networking site viewable by one or more other users" "in response to receiving the sharing option selection." Ex. 1001, 68:25–28. lululemon contends that "device 601 performs this [11E] limitation in response to all four sharing options": (1) a "Leaderboard", (2) a "Brag to Friends" option, (3) a "Share This Run" option, and (4) a "Blog Promotion" option. Petition, 32–38. lululemon's position is flawed because it fails to show that any of the four options discloses transmitting workout information "in response to" receiving the sharing option selection under the proper construction. *See* Section VIII.B.

a. lululemon does not show that any of the four purported "sharing option[s]" disclose transmitting workout information "in response to" receiving the sharing option selection

67. In my opinion, lululemon does not show that any of the four purported "sharing option[s]" in Johnson discloses transmitting workout information associated with the user's recorded athletic activity "in response to" receiving the

sharing option selection. Claim 11 recites an apparatus that transmits workout information "in response to receiving" the user's selection of a "sharing option." Ex. 1001, 68:25–28.

68. ***"Leaderboard" Option:*** lululemon argues that users can share data to the Leaderboard if they "agree in advance to have their data shared with others." Petition, 33 (citing Ex. 1004, ¶ 135). As explained above, "in response to receiving the sharing option selection" as recited in claim 11 should be interpreted as transmission "in response to receiving an individual user command or confirmation to share the recorded athletic activity." But lululemon does not establish that Johnson's "Leaderboard" option discloses an individual user command or confirmation. Petition, 33–36. Instead, lululemon merely shows that the user agrees ***in advance*** to have their data shared with others, and then Johnson's device 601 automatically shares information for all future workouts after completion. That automatic sharing is not "in response to ***receiving***" a sharing option selection under the proper interpretation of [11E]. *See id.* Instead, it is merely automatic sharing. Accordingly, in my opinion, lululemon fails to establish that the Leaderboard option discloses this limitation.

69. ***"Brag to Friends," "Share this Run," Options:*** In my opinion, lululemon fails to provide with particularity any evidence or argument that the alleged transmission of workout information occurs "in response to receiving" a

sharing option selection. Petition, 32–38. In fact, lululemon provides no argument whatsoever for the "Brag to Friends" and "Share this Run" options. *Id*., 32–38 (providing argument sections for only the "Leaderboard" and "Blog Post" options).

70. ***Blog Post Option:*** lululemon's only argument for Johnson's "Blog Post" option relates to whether the "Blog Promotion" text in Figure 43 or the "blog 2900" of Figure 29 identifies "a social networking site viewable by one or more other users." *Id*., 37–38. lululemon provides no evidence or argument that the "Blog Promotion" text in Figure 43 or the "blog 2900" of Figure 29 discloses transmitting workout information "in response to receiving" a sharing option selection under the proper interpretation of the ordinary and customary meaning. *See id*.; Ex. 1001, 68:25–28.

b. lululemon does not show that Johnson discloses transmitting workout information to "a social networking site viewable by one or more other users"

71. In my opinion, lululemon does not show that any of the four embodiments in Johnson disclose transmitting workout information associated with the user's recorded athletic activity to "a social networking site viewable by one or more other users." Ex. 1001, 68:25–28.

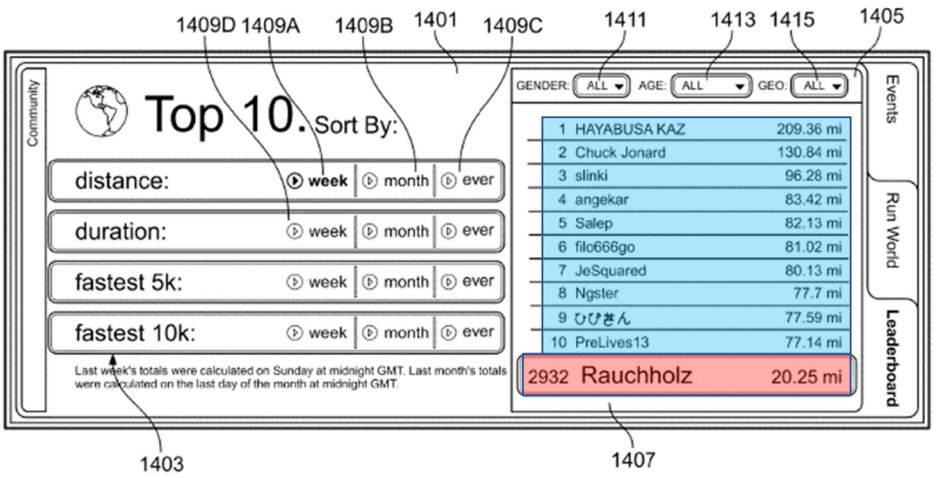
72. ***"Brag to Friends" and "Share this Run" Options:*** In my opinion, lululemon does not provide any evidence or argument concerning limitation [11E]. *See* Petition at 32–38 (providing argument sections only for the "Leaderboard" and

"Blog Post" options). Thus, lululemon fails to show that either of these options transmits workout information to "a social networking site viewable by one or more other users." *Id.*

73. ***"Blog Post" Option:*** lululemon does not show that Johnson discloses transmitting workout information associated with the user's recorded athletic activity to "a social networking site viewable by one or more other users." Ex. 1001, 68:25–28. lululemon cites again to Johnson's "Blog Promotion" text in Figure 43 as purported evidence that Johnson teaches sharing to a blog. Petition, 36–38. lululemon also relies on Figure 29 of Johnson, which depicts "blog 2900." *Id*., 37; *see also* Ex. 1004, ¶ 167. While unclear, lululemon seems to be arguing that "blog 2900" in Figure 29 is the same "blog" referenced in Figure 43, and thus Figures 29 and 43 collectively show that Johnson's device 601 transmits workout information associated with the recorded athletic activity to a social networking site. Petition, 36–38. But lululemon provides no evidence that blog 2900 is the same blog referenced in Figure 43. *See id.* These are different embodiments in Johnson. Also, Johnson states that blog 2900 is *not* a social networking page, but is something a user ***may include*** in a social networking page: "a user, athlete, or runner may ***include*** a blog 2900 in their web page or social networking page." Ex. 1004, ¶ 167 (emphasis added). That is, Johnson discloses that blog 2900 is separate and different from a "social networking page." *See id.*. Even if a user is able share its

workout information to blog 2900, the Petition does not establish that this would constitute sharing workout information to "a social networking site viewable by one or more other users." *See id.*

74. ***"Leaderboard" Option:*** lululemon relies on Figure 14A of Johnson, which appears to show ten users on a leaderboard in blue, followed by user "Rauchholz." Petition, 33–36. Johnson discloses that the text "Rauchholz" refers to the user whose athletic activity data is stored by device 601. Ex. 1004, ¶ 134.



Ex. 1004, Fig. 14A (annotated). But lululemon does not argue that the workout information associated with user Rauchholz is shared on "a social networking site viewable by one or more other users." *See* Petition, 33–36. lululemon instead alleges that user Rauchholz can "view[] the recorded data of ten athletes." Petition, 35. But lululemon cites no evidence that indicates that user Rauchholz has shared his workout information with other users, or that anyone other than user Rauchholz can view the leaderboard depicted in Figure 14A of Johnson. *See id.*,

33–36. That is, lululemon shows on what user Rauchholz can see, not what user Rauchholz has shared.

75. For these reasons, in my opinion, lululemon does not show that Johnson discloses an apparatus that "transmit[s] workout information associated with the recorded athletic activity to a network page of a social networking site viewable by one or more other users" "in response to receiving the sharing option selection." Ex. 1001, 68:25–28.

76. For at least the reasons discussed above, in my opinion, lululemon fails to show that Johnson anticipates claim 11.

3. lululemon does not show that Johnson anticipates claim 12

77. Claim 12 depends from claim 11 and recites "wherein the apparatus is further caused to tag a summary of one or more metrics from the recorded athletic activity with ***identifiers of one or more other users***." Ex. 1001, 68:29–32 (emphasis added). A POSITA would understand that the plain language of the claim requires that a summary of metrics from the recorded athletic activity of the user in claim 11 is tagged with identifiers of at least one "other user[]."

78. lululemon relies on Johnson's disclosure of "milestone achievement" tags but, in my opinion, does not show that Johnson anticipates claim 12 because each tag lists only one user. Petition, 38–39. The "milestone achievement" tags are used in Johnson to identify whether a user has met a workout milestone. *Id*., 38;

Ex. 1004, ¶ 146. Below is Figure 3 as annotated by lululemon.

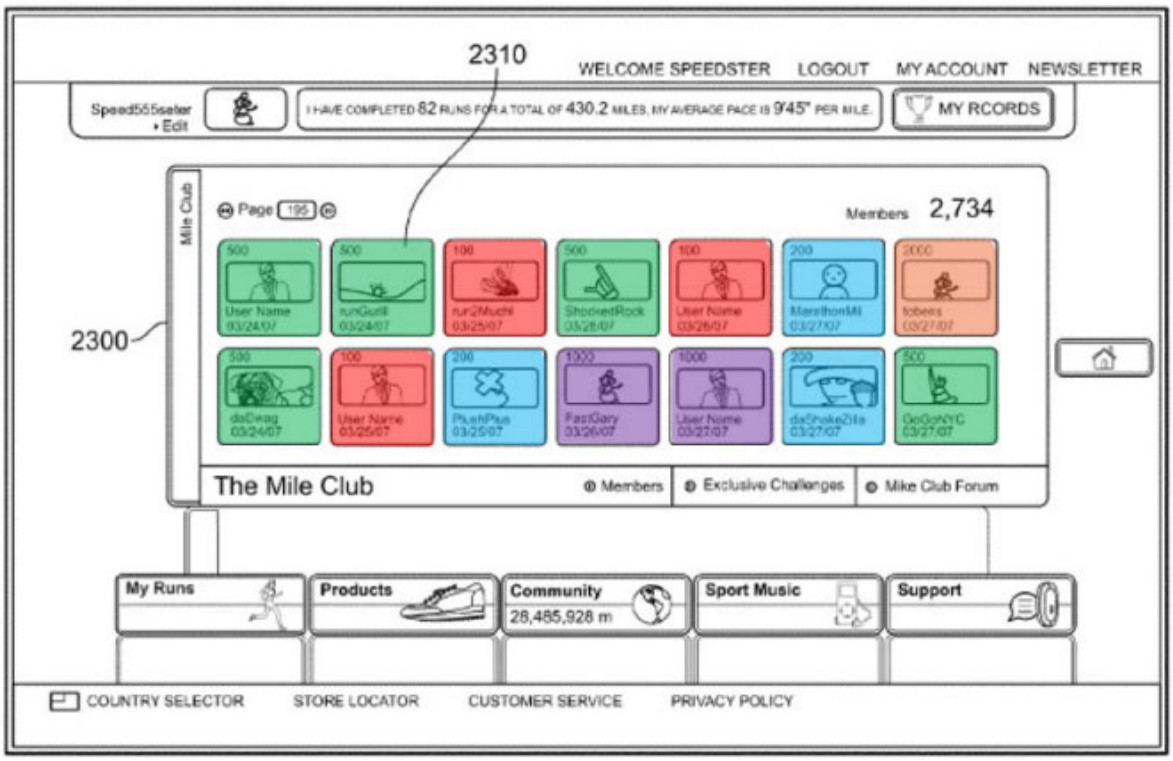


FIG. 23

Petition at 39. There is not one "500-Mile Club" tag which lists the recited "other users." Rather, each user has its own tag. The tags do not include identifiers of the club member and "one or more other users." The Petition is, at best, ambiguous as to whether it is alleging that the name listed in a tile of Figure 23 is supposed to be the same "user" recited in claim 11 or the "other user[] recited in claim 12. However, under either interpretation, the Petition does not establish that each element of claim 12 is present either expressly or inherently. Below I explain why, using the tile in the bottom left of Figure 23 listing the name "daDwag" as an example.

79. If lululemon contends that "daDwag" is the "user" of claim 11 then the

500-Mile Club tile does not show the "other user[]" recited in claim 12. The 500-Mile Club tile contains (1) an achievement identifier and (2) an identifier for only one user—"daDwag." There is no name listed that could be a claimed "other user[]."

80. If lululemon is arguing that the "daDwag" is the "other user[]," then there is no showing that the 500-Mile Club tile contains the "summary of one or more metrics from the recorded athletic activity," recited in claim 12. The recited "recorded athletic activity" is the activity performed by the "user" of claim 11. But, the 500-Mile Club tile only contains summary information for "daDwag's" workout, not the "user" of claim 11.

81. Therefore, in my opinion, lululemon fails to show that Johnson discloses a summary of metrics from the recorded athletic activity of the user in claim 11 that is tagged with identifiers of at least one "other user[]."

B. Ground 2: lululemon Has Not Established That Sutton Anticipates the Challenged Claims

82. In my opinion, lululemon's petition does not show that Sutton discloses each element of the Challenged Claims.

1. lululemon does not show that Sutton anticipates claim 11

a. lululemon does not show that Sutton discloses an apparatus that "record[s] athletic activity performed by a user" [11C]

83. In my opinion, lululemon does not show that Sutton discloses an

apparatus that measures or captures (and then saves) athletic activity performed by a user. Ex. 1001, 68:21. Similar to its arguments concerning Johnson, lululemon instead shows that Sutton discloses an apparatus that merely saves activity data.

84. The Board wrote in its Institution Decision that "[w]hether [Sutton's] system 110 'records athletic activity' when it writes information about a user's athletic activity into database 115 turns on the precise scope of 'record' as recited in element 11C." Decision, 12. A POSITA would understand in view of the intrinsic record, that the ordinary and customary meaning of "record" athletic activity performed by a user as recited in claim 11 means "measure or capture, and then save" athletic activity performed by a user.

85. The "apparatus" that lululemon identifies in Sutton does not perform the recited claim language because it does not measure or capture athletic activity. lululemon identifies Sutton's "activity and biometric tracking system 110" as the "apparatus" that it claims anticipates claim 11. Petition, 42. But Sutton's system 110 does not "record" (i.e., measure or capture, and then save) athletic activity, under the proper meaning of "record." In Sutton, system 110 does not measure or capture athletic activity because it is made of only a database (115) and a server (111). Ex. 1005, ¶ 28. Sutton's system 110 only "store[s]" activity data in database 115. *Id.* lululemon notes that that "[s]ystem 110 records athletic activity by ***writing user exercise and activity data to memory*** in database 115." Petition, 46. (emphasis

added). As discussed, writing data to memory is different than measuring or capturing, and then saving activity data. Accordingly, in my opinion, lululemon does not establish that Sutton's system 110 "records athletic activity." Ex. 1001, 68:21.

b. lululemon does not show that Sutton discloses an apparatus that "transmit[s] workout information associated with the recorded athletic activity to a network page of a social networking site viewable by one or more other users" [11E]

86. In my opinion, lululemon does not show that Sutton discloses an apparatus that "transmit[s] workout information associated with the ***recorded athletic activity*** to a network page of a social networking site viewable by one or more other users." Ex. 1001, 68:25–28 (emphasis added). lululemon relies on Figures 3 and 9 of Sutton to meet this limitation. Petition, 48–52. A POSITA would understand that neither of these figures shows the transmission of workout information associated with "recorded" athletic activity. Instead, both figures show the transmission of workout information associated with manually entered workout information.

87. Sutton's Figure 3 shows methods of transferring "user-provided data"; it does not discuss the transfer of "recorded athletic activity." *See* Ex. 1005, Fig. 3, ¶ 60. Similarly, Figure 9 shows a data entry form that has the title "Enter Activity by Hand." Exhibit 1005, Fig. 9. Figure 9's form enables the user to manually enter

certain details about a previously performed athletic activity, such as the "Sport," "Description," "Course Rating," "Total Time," and "Total Distance." *Id*., Fig. 9. lululemon even admits that Figure 9 relates only to manually entered data. Petition at 47 ("Sutton's users can manually enter activity data via an exemplary data entry form."). As a result, even if Figure 9 shows a "sharing option," that option is only presented to the user relating to manual entry of a previously performed athletic activity—not "recorded activity." *See id.*

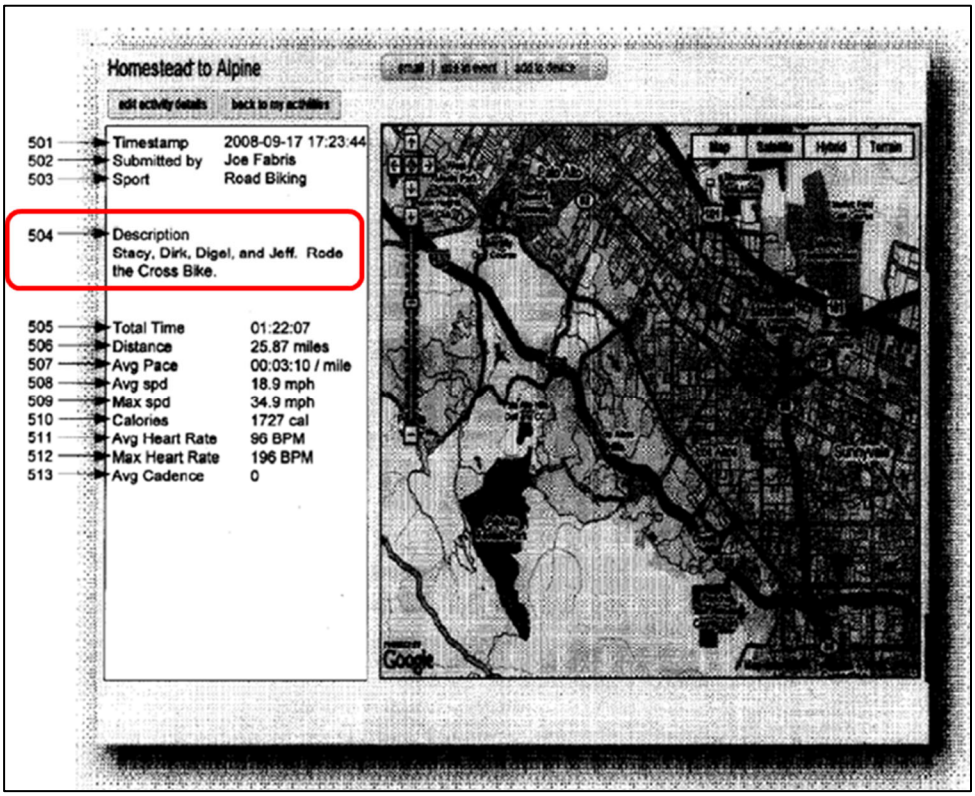
88. For these reasons, in my opinion, lululemon does not show that Sutton discloses an apparatus that "transmit[s] workout information associated with the ***recorded athletic activity*** to a network page of a social networking site viewable by one or more other users." Ex. 1001, 68:25–28.

2. lululemon does not show that Sutton anticipates claim 12

89. Claim 12 depends from claim 11 and recites "wherein the apparatus is further caused to tag a summary of one or more metrics from the recorded athletic activity with ***identifiers of one or more other users***." Ex. 1001, 68:29–32 (emphasis added). As set forth below, in my opinion, lululemon does not show that Sutton anticipates claim 12 because it does not proof that the "identifiers" recited in claim 12 are associated with "one or more other users."

90. In my opinion, lululemon does not show any support for the allegation that the people listed on a screen in Sutton are the claimed "users." lululemon relies

on Figure 5 of Sutton, when arguing that Sutton allegedly discloses claim 12. *See* Petition, 52–55.



Ex. 1005, Fig. 5 (annotated). lululemon identifies "description field 504"(annotated in red) and states that the "[d]escription field 504 includes the names of athletes Stacy, Dirk, Digel, and Jeff and, below them, summaries of metrics of athletic activity." Petition, 54. lululemon then simply concludes that "[a]t least 'Dirk' is another 'user.'" *Id.* lululemon only relies on names on a screen in Figure 5. The problem with lululemon's conclusion is that there is no support in Sutton, or in the Petition, that these are names of "users." Sutton addresses field 504 in one paragraph, and does not what these names refer to. Ex. 1005, ¶ 63. Sutton does not

state that "Dirk" is a "user" and the Petition does not provide any evidence or reasoning to show otherwise.

91. lululemon also relies on Sutton's Figure 10 and the corresponding description in paragraph 84. *See* Petition, 54. In my opinion, this disclosure also does not teach that "Dirk" is a "user" for at least two reasons. First, Figure 10 paragraph 84 do not disclose the "summary of one or more metrics from the recorded athletic activity" recited in claim 12. To the contrary, in Figure 10 and paragraph 84, Sutton discusses that athletic activity has not yet taken place. *See* Ex. 1005, ¶ 84 ("The group event may show a trace map 1005 to give an overview of the course that the group ***will be*** hiking, riding, running, etc.") (emphasis added). Second, the names listed in Figure 10 do not overlap with the names in field 504 of Figure 5 discussed above. Sutton's Figure 10 and the discussion of Figure 10 in paragraph 84 do not support lululemon's statement that "[a]t least 'Dirk' is another 'user.'" Petition, 54. Moreover, I note that the examples in Figures 5 and 10 of Sutton are different embodiments.

92. For these reasons, in my opinion, lululemon fails to Sutton discloses "wherein the apparatus is further caused to tag a summary of one or more metrics from the recorded athletic activity with ***identifiers of one or more other users***."

3. lululemon does not show that Sutton anticipates claim 19

93. Claim 19 depends from claim 11 and recites "wherein the apparatus is

further caused to generate a social network message on the network page ***based on*** a location at which the athletic activity was performed by the user." Ex. 1001, 68:59–62 (emphasis added). A POSITA would understand that the plain language of the claim indicates that the "social network message" be (1) ***generated further*** to the workout information transmitted in limitation [11E] and (2) **"generate[d]"** "***based on***" "a location at which the athletic activity was performed by the user." A POSITA would further understand that to be generated "based on" a location means that the social network message would have depend on the location in some way. lululemon relies only on "a hand-traced map" to meet this limitation. *See* Petition, 55 (citing Ex. 1005, Figs. 3, 5). For two reasons, the "hand-traced map" fails to teach the limitations of claim 19.

a. Sutton's hand-traced map is "workout information," not "a social network message"

94. First, Sutton's hand-traced map is itself merely "workout information," not "a social network message" that is generated "further" to the workout information purportedly transmitted in limitation [11E]. In describing Figure 3, Sutton states that "the data is checked to determine whether it includes a traced map (303)." Ex. 1005, ¶ 60. Sutton therefore confirms that a hand-traced map is "workout information" that may be manually entered into Figure 3 prior to creation of the "social network message."

95. Also, Sutton's hand-traced map is not generated "further" to the

workout information allegedly transmitted in limitation [11E]. lululemon relied on this same disclosure to purportedly meet limitation [11E] that recites "transmitting ***workout information*** associated with the recorded athletic activity to a network page of a social networking site viewable by one or more other users." *See* Petition, 49–50 (citing Ex. 1005, Fig. 3); Ex. 1001, 68:25–27 (emphasis added). In my opinion, a POSITA would understand from the claim language that a map cannot also be part of a "social network message" that the claimed apparatus is "further caused to generate" if it was already used as part of 11[E] because the claim makes clear they are two separate elements.

b. Sutton's hand-traced map is not "a social network message" "generate[d]" "based on a location at which the athletic activity was performed by the user"

96. Second, Sutton's hand-traced map is not "a social network message" "generate[d]" "based on a location at which the athletic activity was performed by the user." Claim 19 recites that the "social network message" is ***"generate[d]" "based*** on a location at which the athletic activity was performed by the user." But, a hand-traced map does not depend on a location—it depends only on what a user traces. Sutton therefore does not teach that the apparatus is "further caused to generate a social network message on the network page based on a location at which the athletic activity was performed by the user.

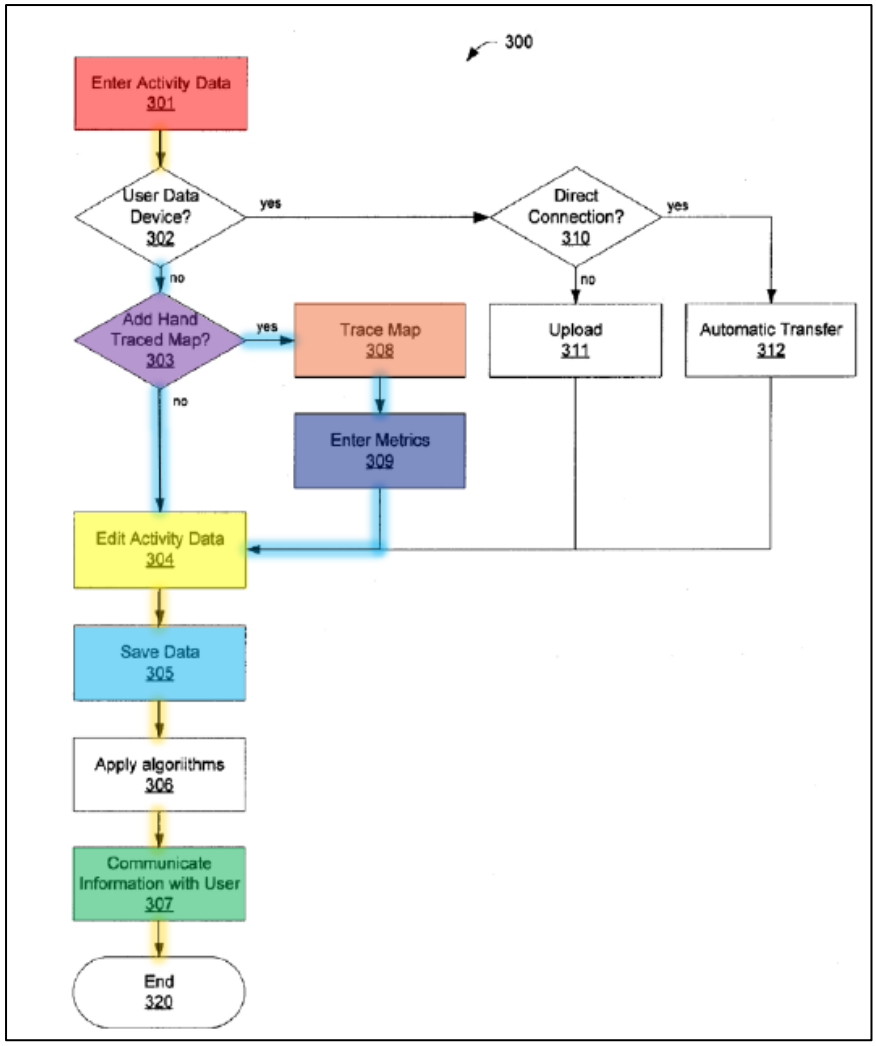
97. For these reasons, in my opinion, lululemon has not shown that Sutton

discloses each and every element of claim 19.

4. lululemon does not show that Sutton anticipates claim 20

98. Claim 20 depends from claim 19 and further recites "wherein transmitting the workout information includes modifying the social network message based on a received user edit." Ex. 1001, 68:63–65. That is, a POSITA would understand that claim 20 requires the modification of "a social network message" ***after*** its creation. *Id*.

99. But lululemon cites disclosure that is different. The disclosure identifies the option to edit manually entered ***activity data*** before a "social network message" is created. Specifically, lululemon identifies Sutton's disclosure of a user having "an opportunity to correct and edit" manually entered data at step 304 of Figure 3. Petition, 56 (quoting Ex. 1005, ¶ 60). But, in arguing that Sutton anticipates claim limitation [11E], lululemon also argues workout information is not transmitted to a network page of a social networking site until step 307. Petition, 49. A "social network message" cannot be generated before the transmission of workout information because, until the transmission, nothing is received by the social networking site. Ex. 1005, Fig. 3. Accordingly, a POSITA would understand that "social network message" is not created until at least step 307—after step 304. Figure 3 of Sutton as annotated in the Petition is reproduced below:



Petition at 57. As the annotated figure above shows, a "social network message" is purportedly generated at step 307 (green box), which means it cannot be modified based on a received user edit at step 304 (yellow box), because the "social network message" does not exist at step 304. In other words, rather than identifying a user editing an existing "social network message," lululemon cites to disclosure of a user editing ***activity data*** before a social network message is ever created.

100. For these reasons, in my opinion, lululemon has not shown that Sutton discloses each and every element of claim 20.

C. Ground 3: lululemon Does Not Show the Challenged Claims Are Obvious Over Sutton

101. In Ground 3, lululemon alleges that Sutton renders claims 11, 12, 19, and 20 obvious. Petition at 57–67.

1. lululemon does not show that Sutton renders claim 11 obvious

102. lululemon's obviousness argument for Sutton is similar to what lululemon argued for anticipation by Sutton with respect to element [11E]. Petition, 47–52, 61–65. Again, lululemon identifies the "Public" option in Figure 9 as its "sharing option." Petition, 61–65.

103. In Ground 2, lululemon relies on Sutton's system (110). In ground 3, lululemon relies to Sutton's device (104) as the claimed "apparatus." Petition, 58. lululemon argues that "it would have been obvious" to configure the apparatus (i.e., device (104)) in two ways because Sutton's device (104) lacks "a sharing option,". Petition, 62, 63 (citing Ex. 1005, Fig. 3). First, lululemon alleges it would have been obvious to configure Sutton's device 104 to receive Figure 9's sharing option selection in the "manual device transfer pathway." *Id*. Second, lululemon argues it would have been obvious to configure Sutton's device 104 to receive Figure 9's sharing option selection in "the automatic device transfer pathway before the user started their workout." *Id*. As I explain below, both proposed combinations fail to teach the limitations of claim 11.

104. In my opinion, lululemon's position regarding "manual device transfer pathway" fails because the manual device transfer pathway has to do with manually entered data—not "recorded athletic activity." Therefore, combining Figure 9's sharing option selection with Figure 3's "manual device transfer pathway" does not teach "transmitting workout information associated with the ***recorded athletic activity***" as recited in [11E]. Ex. 1001, 68:25–26.

105. Similarly, in my opinion, lululemon's positions relating to the "automatic device transfer pathway" also do not teach the recited limitation because the pathway discloses a purported "sharing option" for manually entered data—not "recorded athletic activity." The term "automatic" refers to sharing, not measuring or capturing. lululemon argues (in large part by cross-referencing its arguments for limitation [11D]) that the "automatic device transfer pathway" depicted in Figure 3 of Sutton shows data transfer between a user's device and system 110. *Id*., 63, 65. Within Figure 3, lululemon points to box 312, titled "Automatic Transfer." *Id.*, 62–63. This argument fails for two reasons.

106. First, Sutton's Figure 3 only shows methods of transferring "user-provided data" and provides no information about the transfer of "recorded athletic activity." *See* Ex. 1005, Fig. 3, ¶ 60. Sutton discloses that Figure 3 "illustrates a block diagram for exemplary data transfer methods." *Id.* According to lululemon, Figure 3 depicts a "manual device transfer" path and an "automatic device transfer"

path for communication of workout data. Petition, 61. However both paths start at box 301, which is labeled "Enter Activity Data." Ex. 1005, Fig. 3. Sutton confirms that the "activity data" entered in box 301 is "user-provided data." Ex. 1005, ¶ 60. Therefore the same problem remains for either "path": Sutton only discloses a "sharing option" for manually entered data—not "recorded athletic activity" as recited in claim 11. Ex. 1001, 68:21–28; Section VIII.A. Whether the "user-provided data" is uploaded manually or automatically, Sutton does not teach a sharing option for "recorded athletic activity."

107. Second, even if we assume that Sutton's "automatic device transfer" related to the transfer of "recorded athletic activity," in my opinion, lululemon's does not establish that a POSITA would modify Sutton. lululemon alleges that a POSITA would have been motivated to show Figure 9 to a user on two separate occasions for each workout: ***before*** their workout to receive the "sharing option," and then again ***after*** the workout to manually enter other information related to that workout. Petition, 63.

108. In lululemon's analysis, a POSITA making this modification would have created a system in which a user has to fill out Figure 9's form before starting the workout, except that the POSITA would omit the 'Start Data/Time,' 'Total Time,' 'Total Distance,' and 'Course Rating" fields from the form because the user would not yet have performed the activity. *Id.* Then, after performing the activity,

the user would have to return to the form to manually enter other information related to that workout. In my opinion, this proposed sequence of events is disjointed, nonsensical, and unsupported by Sutton. In fact, lululemon does not cite to Sutton in support of this argument. lululemon instead relies on one paragraph of conclusory expert testimony. Petition, 63 (citing Ex. 1003, ¶ 94).

109. For these reasons alone, in my opinion, lululemon has not shown that Sutton renders any Challenged Claim obvious under Ground 3.

D. Ground 4: lululemon Does Not Show That the Challenged Claims are Obvious Over the Combination of Sutton and the Plus 3 Website Pages

110. lululemon has not shown that the combination of Sutton and the Plus 3 Website Pages renders the Challenged Claims obvious. In Ground 4, lululemon challenges claims 11–14 and 19–20 as obvious over the combination of Sutton and the Plus 3 Website Pages. Petition, 67. lululemon does not identify any teachings from the Plus 3 Website Pages that relate to claims 12 and 20.

1. lululemon does not show that the combination of Sutton and the Plus 3 Website Pages renders obvious claim 11

111. For claim 11, lululemon relies on the Plus 3 Website Pages to show elements of limitations [11D] and [11E]. Petition, 69–70. lululemon cites two disclosures in the Plus 3 Website Pages. First, lululemon relies on the Plus 3 Network Privacy Policy to show that the Plus 3 Network website allows a user's activity to be viewed publicly: "If the Activity is set to Public it can be viewed, with

your name attached, by all Users." Petition, 69, 70 (citing Ex. 1006 at 12). Second, lululemon relies on the Plus 3 Website Pages to show that the Plus 3 Network is a "social network." *Id.*, 70 (citing Ex. 1006, 9, 12).

112. In my opinion, neither of these cited disclosures adequately address the deficiencies in Ground 3: that Figure 3 and Figure 9 of Sutton teach only to manually entered athletic activity data—not "recorded athletic activity" (Ex. 1005, Fig. 9). Therefore, for the same reasons I explain above, lululemon does not show that the combination of Sutton and the Plus 3 Website Pages renders claim 11 obvious.

2. lululemon does not show that the combination of Sutton and the Plus 3 Website Pages renders obvious claim 14

113. Claim 14 depends from claim 11 and recites "wherein the apparatus is further caused to: [1] receive a request to deactivate sharing of the workout information; and [2] transmit a modification request to remove the workout information from the social networking site." Ex. 1001, 68:38–43. But, in my opinion, lululemon does not show that either requirement is obvious over Sutton in view of the Plus 3 Website pages.

114. First, lululemon cites to disclosure that does not teach that the claimed "apparatus" "receive[s] a request to deactivate sharing of the workout information." Ex. 1001, 68:40–41. Instead, lululemon relies on the Plus 3 Network (i.e. not the "apparatus") removing shared workout information. lululemon argues that the Plus

3 Website pages disclose that users can remove their content at any time. *See* Petition, 71 (selectively quoting Ex. 1006, 17). But, in my opinion, lululemon does not accurately describe the disclosure of the Plus 3 Website pages. The Plus 3 Website pages teach that the Plus 3 Network—not the recited "apparatus"—can remove content that violates the terms of use of the Plus 3 Network. *See* Ex. 1006, 17 ("[T]he Company may . . . delete or remove . . . any Site Content or User Content . . . that in the sole judgment of the Company violates these Terms of Use or Plus 3's standards . . . ."). lululemon does not identify anything that indicates that a user or user's "apparatus" may remove the content. Therefore, even if the user's workout information is taken down from the Plus 3 Network in the manner lululemon identifies, it does not occur due to the claimed "apparatus" "receiv[ing] a request to deactivate sharing of the workout information." The removal is also not in response to the claimed "apparatus" "transmit[ing] a modification request to remove the workout information" from the Plus 3 Network. Instead, lululemon relies on removal caused by an administrator from the Plus 3 Network.

115. Second, in my opinion, lululemon does not show that either Sutton or the Plus 3 Website pages discloses or teaches deactivating the "sharing of the workout information" that has ***already been shared*** as required by limitation [11E]. lululemon cites the Plus 3 Website pages' disclosure that "[i]f an Activity is set to Private, it is not displayed to other Users and only you can see it." Petition, 71

(citing Ex. 1006 at 12). This disclosure is, at best, unclear as to whether setting an activity to "Private" functions retroactively or only prospectively. It is not evident from the cited disclosure if changing an activity to Private after the activity has already been shared would make past activities private and "remove the workout information from the social networking site." Because this disclosure does not establish that a user can remove information already on the social network site, it fails to teach the requirements of claim 14.

116. For at least these reasons, in my opinion, lululemon has not shown that the combination of Sutton and the Plus 3 Webpages renders the Challenged Claims obvious under Ground 4.

3. lululemon does not show that the combination of Sutton and the Plus 3 Website Pages renders obvious claim 19

117. As I discuss above, claim 19 requires a "social network message" that is (1) ***generated further*** to the workout information transmitted in limitation [11E] and (2) "***based on***" "a location at which the athletic activity was performed by the user." lululemon makes essentially the same arguments presented in Ground 2. *See* Petition, 72. That is, lululemon argues that the Plus 3 Website Pages disclosure of a user's route information satisfies the additional requirements of claim 19. *See id.* ("[W]hen you post an activity … Users may see the route you have covered, including your start and end points, which may include your residence or place of work.") (citing Ex. 1006, 12). But, for the reasons I discuss above, a map in which

the user completing its athletic activity is merely "workout information"—and neither 1) generated ***further*** to the workout information transmitted in limitation [11E], nor (2) "***generate[d]*** . . . ***based on*** a location at which the athletic activity was performed by the user." In my opinion, lululemon thus fails to show that Sutton renders claim 19 obvious for the reasons discussed above.

4. lululemon does not show that the combination of Sutton and the Plus 3 Website Pages renders obvious claims 12 and 20.

118. lululemon does not make any arguments relating to claims 12 and 20 in Ground 4, and does not identify any teachings from the Plus 3 Website Pages that relate to claims 12 and 20. *See* Petition at 67–72. lululemon thus fails to show that the combination of Sutton and the Plus 3 Website Pages renders obvious claims 12 and 20.

X. CONCLUSION

119. I reserve the right to supplement my opinions in the future to respond to any arguments that lululemon raises. This declaration represents only those opinions that I have formed to date. I reserve the right to revise, supplement, and/or amend my opinions stated herein based on new information that becomes available to me and on my continuing analysis of the materials already provided.

120. I recognize that this declaration will be filed as evidence in a contested case before the PTAB. 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 appropriate time as mutually agreed between the parties.

121. I declare that all statements made herein of my own knowledge 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.

Dated: August 7, 2023

Robert Stone

Appendix A

ROBERT T. STONE, Ph.D.

SUMMARY

Dr. Stone has over thirty-eight years of academic and industry experience in the field of medical electronics systems and instrumentation. As Chief Executive Officer and founder of Medical Design Solutions, Inc, Dr. Stone is responsible for all phases of product development including concept definition, prototyping, design, evaluation, patenting and technology licensing. He is an experienced expert witness both as a background consultant and testimonial expert.

Expertise

Carbon Monoxide Monitoring
Doppler Ultrasound
Analog Electronics
Medical Electronics
Portable Vascular Analysis Systems
Pulse Oximetry Signal Processing
Invasive and non-invasive thermometry
FDA Product Certification
Ultrasonic Imaging
Telemetry (remote monitoring)
Newborn Hearing Screening Devices
Pulse Oximetry
Technology Licensing

PROFESSIONAL EXPERIENCE

August 2022 to Present Virginia Polytechnic Institute and State University

Professor of Practice , Department of Biomedical Engineering and Mechanics. Teaching and mentoring senior Device design classes.

2011 to June 2022 Medical Design Solutions, Inc
Founder and CEO

Responsible for virtually all phases of product development including concept definition, prototyping, design, evaluation, patenting, technology licensing, for various products directed at various markets.

2008 to 2011 Tronics MedTech, Inc
CTO

Responsible for virtually all phases of product development including concept definition, prototyping, design, evaluation, patenting, technology licensing, for various products directed at various markets.

2004 to 2008 **MedTech Development, LLC**
Founder, CTO

Responsible for virtually all phases of product development including concept definition, prototyping, design, evaluation, patenting, technology licensing, for various products directed at various markets.

1997 to 2004 **Pacific Consultants, LLC**
Director of Medical Electronics

Responsible for virtually all phases of product development including concept definition, prototyping, design, evaluation, patenting, technology licensing, for various products directed at various markets.

1991 to 1996 **Natus Medical, Inc.**
Vice President Research & Development, Chief Technical Officer

Responsible for all phases of new product development including concept definition, prototyping, design, clinical trials, FDA clearance, regulatory compliance including UL, CSA, CE listings, patenting and technology licensing for products directed at the pediatric hospital market. Responsibilities included contract negotiation, international distributor technical support, distributor evaluation and contract negotiations, Federal Research Grant proposal and management. Developed and patented broad patents for a new concept in breath analysis, covering design, embodiment, and a disposable element. Other achievements included:

- Conceived and guided the development of, and maintained the second generation of newborn hearing screening devices, a product that was the current backbone of the Natus product line. Worked extensively with researchers in refining and defining product specifications and performance parameters. Wrote and managed the FDA 510(k) clearance process during the peak of the FDA logjam in 1993-1994. The introduction of this product caused growth in sales to virtually double in the marketplace, and was a major factor in the company's pending profitability.

- Conceived the re-design of the company's first generation product to incorporate some of the major benefits of the second-generation product in a package, which allowed major expansion of the product market, both domestically and internationally.

- Invented a device, which can be used to diagnose the most significant contributing factor of the most common disorder present in newborns. Developed and obtained three patents covering the devices design plus a valuable disposable. Managed early clinical validation trials, expanded the concept to other applications, and executed a Federal Grant which demonstrated successfully the application of the patent to

forensic breath alcohol analysis. Current plans to market this device are based upon pressing marketplace needs and the potential application in virtually every birthing center, pediatric clinic, and emergency in the developed countries.

- Obtained a license from the Medical Research Council of the UK to a new generation of auditory screening devices, and developed the technology into a device that is generating pressing demands upon the company for launch and distribution.

1989 to 1991 **MedaSonics, Inc.**
Vice President Engineering

Managed a group of 15 engineers, technicians, designers in the design and development of portable vascular analysis equipment designed for clinics, hospitals, and physicians offices. Coordinated the development of specifications, project planning, cost analysis and resource allocation for multiple simultaneous projects, evaluated new technological opportunities, negotiated technology licensing and consulting agreements, participated in company directors strategic planning. Wrote several patent disclosures. Took over an engineering department that was in great disarray, faced with an urgent need for products late for a closing market window, and key engineers were leaving in frustration. Completed the urgent projects in a timely fashion, helped develop a new direction for the corporation, and defined the product lines which could provide the needed growth and stability.

1983 to 1989 **Nellcor, Inc.**
Manager, Electronic Research

Performed general research and development of new products in the area of blood gas monitoring, oxygen saturation, carbon dioxide gas analysis, and cardiac output. Early prototype development, clinical validation, and presentation of results to corporate officers for development selection. Wrote several patent disclosures, some of which were filed and granted, and some of which were maintained as trade secrets. Contributed to several marked advances in pulse Oximetry signal processing (two US patents issued), and developed an Oximetry telemetry system. Two of the patents were vital to market growth of Pulse Oximetry. One of the patents allowed the positioning of the second-generation product in awake, agitated, or ambulatory patients. The second patent significantly improved the product performance during physiologic transients, and is currently in use in as many as 50% of the pulse Oximeters in the world. The Oximetry marketplace expanded from critical care facilities to step down wards and general wards with the introduction of the OXINET telemetry system that was a sole contributor definition, design, and development

1981 to 1983 **Virginia Polytechnic Institute and State University**
Assistant Professor, Engineering

Taught classes in system analysis, instrumentation, thermodynamics, and signal analysis. Developed and taught classes in microprocessor applications in instrumentation and control. Obtained research funding in analysis of control systems for nuclear reactors.

1979 to 1981

On sabbatical from Virginia Polytechnic Institute as a NSF Fellow at Stanford University to earn Ph.D.

1971 to 1979 **Virginia Polytechnic Institute and State University**
Nuclear Reactor Supervisor

Managed and maintained a research and teaching reactor which routinely performed neutron activation analysis as a research service to university, state, and industry laboratories. Scheduled, supervised, and assisted in performing all laboratory functions, participated in University Safety Committee and Reactor Safety Committee, directly interfaced with the Nuclear Regulatory Commission, assuring compliance with all nuclear device regulations, upgraded all reactor controls, shielding, and instrumentation to allow five-fold power increase for increased laboratory sensitivity. Performed these duties while studying continually for BSEE and MSEE degrees.

1965 to 1971 **United States Navy**
Nuclear Reactor Operator, Electronics Technician & Engineering Watch Supervisor

Highest rank achieved, Electronics Technician (Nuclear) First Class (E-6) Qualified in Officer position as Engineering watch supervisor/Engineering watch officer on the USS Bainbridge, DLG-N25. Spent two years as an instructor in nuclear theory and instrumentation at Schenectady New York Nuclear Power Prototype facility

EDUCATION

Ph.D., Electrical Engineering, Stanford University, 1981
MSEE, with distinction, Virginia Polytechnic Institute and State University, 1979
BSEE, Virginia Polytechnic Institute and State University, 1977

LITIGATION RELATED EXPERIENCE

Type of Matter: IPR

Law firm: Baker and Hostetler, LLP
Case Name: ADVANTAGE MEDICAL ELECTRONICS, LLC &
LIFESYNC CORPORATION
Petitioners v. KPR U.S., LLC
Date Filed: August 2 2022
Services provided: provided expert reports, preparing to testify at deposition
Status: on going

Type of Matter: Patent Infringement
Law Firm: Stern, Kessler, Goldstein, & Fox PLCC
Case Name: Boston Scientific vs. Nevro
Date Filed: ?
Services provided: background research, Expert Report
Testified at Deposition: not yet scheduled
Status: ongoing

Type of Matter: Patent Infringement
Law Firm: Merchant and Gould
Case Name: Masimo vs True Wearables
Date Filed: ?
Services provided: background research, Expert Report
Testified at Deposition: 1 time
Decision in favor of Plaintiff

Type of Matter: Patent Infringement
Law Firm: Lathan & Watkins, LLP
Date filed: ?
Case Name: Itamar vs Ectosense
Services Provided: background research, analysis
Status: Settled before trial or deposition.

Type of Matter:	Patent Infringement
Law Firm:	**Merchant & Gould, LLP**
Case Name:	Terumo v ?
Date Filed:	?/2018
Services Provided:	IPR proceedings on behalf of Terumo. Advised attorneys, interpreted technology, Writing expert report
Type of Matter:	IPR filing and patent infringement
Status:	Settled

Type of Matter:	Patent Infringement
Law Firm:	**Baker Hostetler, LLP**

Case Name:	Bracco Diagnostics vs Jubilant Draximage
Date Filed:	3/2018
Services Provided:	IPR proceedings on behalf of Jubilant, ITC hearing - testify Advised attorneys, interpreted technology, wrote expert report. Testified at deposition 3 times Testified before ITC
Status:	IPR and ITC decisions on behalf of client.

Type of Matter:	Patent Infringement
Law Firm:	**Cooley, LLP**
Case Name:	Beijing Choice v. Contec
Date Filed:	?/2018
Services Provided:	IPR proceedings on behalf of Contec. Advised attorneys, interpreted technology, wrote expert reports. Testified at deposition 2 times
Type of Matter:	IPR filing and patent infringement
Status:	Ongoing

Type of Matter:	Patent Infringement
Law Firm:	**Latham & Watkins LLP**
Case Name:	Cardionet vs Infobionic
Date Filed:	6/2015
Services Provided:	IPR proceedings on behalf of Infobionics. Advised attorneys, interpreted technology, wrote expert reports and declarations. Testified at deposition 1 time
Type of Matter:	IPR filing and patent infringement
Status:	PTB find on behalf of client. Damages for Trade theft allegation arbitration – decision for client

Law Firm:	K&L Gates, LLP; Morgan, Lewis, & Bokius LLp
Case Name:	INO Therapeutics v Praxair
Date Filed:	8/2014
Services Provided:	IPR institution. Advised attorneys, interpreted technology, wrote expert reports and declarations. Testified at deposition 2 times. Testified at trial.
Type of Matter:	Patent Infringement Lawsuit
Status	Verdict on behalf of client.

Law Firm:	**Finnegan, Henderson, Farabow, Garrett & Dunner, LLP**
Case Name:	**Syneron and Viora**
Date Filed:	?
Services Provided:	Patent Infringement matter medical device for treatment of celluliteAdvised attorneys, interpreted technology, wrote expert reports and declarations. Deposed 1 time

Status:	Settled on behalf of client
Law Firm:	Kirkland and Ellis, LLP
Case Name:	Medtronic Puerto Rico Operations Co. et al v. Animas Corporation, 2:12-cv-04471-RSWL-RZ (C.D. Cal.)
Date Filed:	5/22/2012
Services Provided:	Patent Infringement matter involving remotely controlled insulin pump. Advised attorneys, interpreted technology, wrote expert reports and declarations. Testified at deposition
Status:	Settled on behalf of client
Type of Matter:	Patent Infringement
Law Firm:	Kirkland and Ellis, LLP
Case Name:	Medtronic Minimed Inc. at al v. Insulet Corporation, 2:12-cv-08048-PA-CW (C.D. Cal.)
Date Filed:	9/18/2012
Services Provided:	Patent Infringement matter involving remotely controlled insulin pump. Advised attorneys, interpreted technology, wrote expert reports and declarations. Deposed 1 time
Status:	Settled on behalf of client
Type of Matter:	Whistleblower, Fraud
Law Firm:	Scott Bonagofsky, Atty at Law
Case Name:	United States et al v. Masimo Corporation, 2:10-cv-08169-CJC-VBK (C.D. Cal.)
Date Filed:	10/29/2010
Services provided:	Advised Attorneys, analyzed technology, prepared expert report and declaration.
Status:	Resolved
Type of Matter:	Patent Infringement
Law Firm:	Foley and Lardner, LLP
Case Name:	Masimo Corporation v. Mindray DS USA, Inc. et al, 8:12-cv-02206-CJC-JPR (C.D. Cal.)
Date Filed:	12/21/2012
Services Provided:	Patent Infringement matter involving frequency domain signal processing of biological signals and Oximetry electronics on behalf of defendant. Advised attorneys, interpreted technology. Deposed once.
Status:	settled

Type of Matter:	Patent Infringement
Law Firm:	Mayer Brown LLP
Case Name:	Masimo Corporation v. Philips Electronics North America Corporation et al, 1:09-cv-00080-LPS-MPT (D. Del.)
Date Filed:	2/3/2009
Services Provided:	Patent Infringement matter involving frequency domain signal processing of biological signals and Oximetry electronics on behalf of defendant. Advised attorneys, interpreted technology, wrote expert reports, testified at jury trial. Deposed 4 times
Status:	Settled

Type of Matter:	Patent Infringement
Law Firm:	Merchant and Gould, PC
Case Name:	Robert Bosch Healthcare Systems, Inc. v. CardioCom, LLC, 5:12-cv-03864-EJD (N.D. Cal.)
Date Filed:	7/24/2012
Services Provided:	Patent Infringement matter involving remote health monitoring systems. Prepared declarations for re-examination of patents deposed ~ 4 times
.	
Status:	Settled on behalf of client

Type of Matter:	Patent Infringement
Law Firm:	Merchant and Gould, PC
Case Name:	My Health, Inc. et al v. CardioCom, LLC, 13-cv-00136-RSP (E.D. Tex.)
Date Filed:	2/15/2013
Services Provided:	Patent Infringement matter involving remote health monitoring systems. Prepared declarations for re-examination of patents. Deposed ~ 4 times
Status:	Settled on behalf of client

Type of Matter:	Product Liability/Malpractice
Law Firm:	MacDonald-Devin PC
Case Name:	Guinn et al v. Nonin Medical, Inc. et al, 3:11-cv-00230 (S.D. Tex.)
Date Filed:	5/16/2011
Services Provided:	Opined on performance, design and operation of Pulse Oximeter, wrote expert report
Status:	Settled

PUBLICATIONS

HJ Vreman, LM Baxter, RT Stone, and DK Stevenson, "Evaluation of a fully automated end-tidal carbon monoxide instrument for breath analysis," Clin Chem, 1996 42: 50-56.

Robert T. Stone & Howard M. Berlin, "Design of VMOS Circuits with Experiments," Howard W. Sams Publications, 1980.

Robert T. Stone, "An Energy Discriminating Photon Counting Detector for Computed Tomography," Ph.D. thesis, Stanford University, 1981.

PATENTS

Patent Number	Year Issued	Title
8,292,800	2012	Implantable Pump system
6,694,157	2004	Method and Apparatus for Determination of pH pCO2, Hemoglobin, and Hemoglobin Oxygen Saturation
6,594,511	2003	Method and Apparatus for Determining Physiological Characteristics
6,503,207	2003	Multi-Mode Audiometric Device and Associated Screening Method
6,480,729	2002	Method for Determining Blood Constituents
6,443,908	2002	Method and Apparatus for In Vivo Measurement of Carbon Monoxide Production Rate
6,368,289	2002	Acoustic Coupling Device
6,368,288	2002	Acoustic Coupling Device
D444.237	2001	Ear Coupler
5,913,309	1999	Disposable Element for Use with a Hearing Screener
5,826,582	1998	Ear Phone Assembly for Use with a Hearing Screener

RE35,122	1995	Method and Apparatus for Detecting Optical Pulses
D0354808	1995	End-Tidal Carbon Monoxide Monitor Filter
5,404,885	1995	Filter Unit for End-Tidal Carbon Monoxide Monitor
5,357,971	1994	Filter Unit for End Tidal Carbon Monoxide Monitor
5,293,875	1994	In-Vivo Measurement of End-Tidal Carbon Monoxide Concentration Apparatus and Methods
5,078,136	1992	Method and Apparatus for Calculating Arterial Oxygen Saturation Based Plethysmographs Including Transients
4,934,372	1990	Method and Apparatus for Detecting Optical Pulses
4,911,167	1990	Method and Apparatus for Detecting Optical Pulses
4,869,254	1989	Method and Apparatus for Calculating Arterial Oxygen Saturation
4,869,254	1989	Method and Apparatus for Calculating Arterial Oxygen Saturation

Published Applications

	PUB. APP. NO.	Title
1	20170303808 A1	Capacitive Electrocardiography (ECG) Systems
2	20170303810 A1	Capacitive Electrocardiography (ECG) Systems
3	20110288436	Materials and methods for insulating electronic components and services
4	20110160609	Method and system for monitoring pressure in a body cavity
5	20110160560	Pressure sensor apparatus, system and method
6	20110144587	Liquid agent delivery apparatus, system and method

7 20090312785 Implantable Pump System
8 20080275525 Method and system for regulating respiration by means of simulated action potential
9 20080161875 Gastric restriction method and system for treatment of eating disorders
10 20060287679 Method and system to control respiration by means of confounding neuro-electrical s
11 20060173508 Method and system for treatment of eating disorders by means of neuro-electrical co
12 20060111755 Method and system to control respiration by means of neuro-electrical coded signals
13 20060064137 Method and system to control respiration by means of simulated action potential sign
14 20030208196 Control system for limited-use device
15 20010049477 Method and apparatus for in vivo measurement of carbon monoxide production rate
16 20010037059 Method and apparatus for determining physiological characteristics
17 20010037058 Method for determining blood constituents
18 20010036277 Audiometric apparatus and associated screening method
19 20010034494 Acoustic coupling device
20 20010034493 Multi-mode audiometric device and associated screening method
21 20010034492 Acoustic coupling device
22 20010033220 Security control method and system

Recent Patent Status

TITLE	COUNTRY	APP./PAT. NO. PRIORITY/ISSUE DATE	REFERENCE	STATUS
Respiration Monitoring System and Method	USA	**10,064,570 09.04.2018**	MDS-02-010	***Issued*;** 3.5 Year Maintenance Fee Due **04 March 2022**
Respiration Monitoring System and Method	USA	**10,314,517 06.11.2019**	MDS-02-010CON1	***Issued*;** 3.5 Year Maintenance Fee Due **10 December 2022**
Wearable Monitoring System and Methods for Determining Respiratory and Sleep Disorders with Same	USA	16/363,290 03.25.2019	MDS-02-010C1/CIP1	Pending; ***Issue Fee Paid***
Wearable Monitoring System and Methods for Determining Respiratory and Sleep Disorders with Same	USA	**10,993,638 05.04.2021**	MDS-02-010C1/CIP2	***Issued*;** 3.5 Year Maintenance Fee Due **04 November 2024**

TITLE	COUNTRY	APP./PAT. NO. PRIORITY/ISSUE DATE	REFERENCE	STATUS
Wearable Physiological Monitoring System	USA	16/419,358 05.22.2019	MDS-02-010C1/CIP3	Pending; ***Issue Fee Paid***
Wearable Physiological Monitoring System	USA	17/518,053 11.03.2021	MDS-02-010C1/CIP3/C1	Pending;
Wearable Physiological Monitoring System	EC	20776824.3 10.13.2021	MDS-03-010C1/CIP3/EC	Pending; Renewal due **March 20, 2022**
Wearable Physiological Monitoring System	Canada	3,133,993 09.16.2021	MDS-03-010C1/CIP3/CA	Pending; Renewal due **March 20, 2022**
Wearable Physiological Monitoring System	Japan	2021-557317 09.24.2021	MDS-03-010C1/CIP3/JP	Pending;

PROFESSIONAL AFFILIATIONS & AWARDS

Member, Campbell Church of Christ
Elder for a Congregation of approximately 450 members
Member IEEE
Inactive member, SPIE
Inactive member American Nuclear Society
National Science Foundation Fellow
Student member of Phi Kappa Phi, Eta Kappa Nu and Tau Beta Phi Honor Societies