

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZEPP LABS, INC.,
Petitioner,

v.

BLAST MOTION, INC.,
Patent Owner.

Case IPR2016-00672
Patent 8,903,521 B2

Before MICHAEL W. KIM, RAMA G. ELLURU, and
MIRIAM L. QUINN, *Administrative Patent Judges*.

QUINN, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

A. *Background*

Zepp Labs, Inc. (“Petitioner”) filed a Petition to institute an *inter partes* review of claims 1, 4–7, 9, 11, 14–16, and 19 of U.S. Patent No. 8,903,521 B2 (Ex. 1001, “the ’521 patent”). Paper 1 (“Pet.”). Blast Motion, Inc. (“Patent Owner”) filed a Preliminary Response (Paper 7; “Prelim. Resp.”).

We have jurisdiction under 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted unless the information presented in the Petition shows “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Upon consideration of the Petition and Preliminary Response, we determine that the information presented in the Petition does not demonstrate a reasonable likelihood that Petitioner would prevail in showing that claims 1, 4–7, 9, 11, 14–16, and 19 are unpatentable.

B. *Related Proceedings*

Petitioner and Patent Owner identify the following district court proceedings concerning the ’521 patent: *Blast Motion, Inc. v. Zepp Labs, Inc.*, No 3:15-cv-00700 (S.D. Cal.). Pet. 2; Paper 5, 2.

Petitioner and Patent Owner identify further the following related patents, for each of which Petitioner has filed a respective *inter partes* review: U.S. Patent No. 9,039,527 (IPR2016-00674); U.S. Patent No. 8,941,723 (IPR2016-00675); U.S. Patent No. 8,905,855 (IPR2016-00676); U.S. Patent No. 8,944,928 (IPR2016-00677).

C. *The '521 Patent*

The '521 patent is titled “Motion Capture Element,” (Ex. 1001, [54]) and is directed to a:

Motion capture element for low power and accurate data capture for use in healthcare compliance, sporting, gaming, military, virtual reality, industrial, retail loss tracking, security, baby and elderly monitoring and other applications for example obtained from a motion capture element and relayed to a database via a mobile phone.

Ex. 1001, Abstract. The '521 patent explains that a microcontroller is programmed with functionality to determine whether an event is to be transmitted, such as a prospective event or if a strike has occurred. *Id.* at 53:66–54:3. The motion, acceleration, or shockwave occurring from the impact of a sporting equipment is transmitted to the sensor in the motion capture element, and the microcontroller, according to its configuration, analyzes the event and determines whether the event is a prospective strike with a ball. *Id.* at 54:3–9. In a golf-related scenario, all impacts of the golf club with a golf ball are recorded, and the impacts are then analyzed to determine if the strike is valid or not valid, e.g., whether the strike involves the ground or a golf ball. *Id.* at 54:22–33. The microcontroller compares the motion capture data with a threshold of linear velocity and searches for a discontinuity threshold, within a defined time window. *Id.* at 54:35–42. If a discontinuity threshold is found, the prospective impact is saved in memory. *Id.* at 54:42–44. The microcontroller continues to analyze collected motion capture data. *Id.* at 54:59–61.

The '521 patent describes analyzing impact events, including reducing false positives. *Id.* at 55:33–35. In order to determine if a prospective

impact was a valid golf swing and golf ball impact, versus, for example, striking the ground, the microcontroller may compare the motion capture data with the velocity signature of a typical golf swing. *Id.* at 55:37–48. In one embodiment, the microcontroller is configured to execute a pattern matching algorithm to follow the motion curves and determine if a characteristic swing has occurred. *Id.* at 55:50–54.

D. Illustrative Claim

Of the challenged claims, claims 1 and 9 are independent. Claim 1 is illustrative of the claimed subject matter and is reproduced below:

1. A motion capture element comprising:
 - a memory;
 - a sensor configured to capture any combination of values associated with an orientation, position, velocity, acceleration of said at least one motion capture element;
 - a radio;
 - a microcontroller coupled with said memory, said sensor and said radio, wherein said microcontroller is configured to
 - estimate an initial orientation based on motion capture data from two points in time;
 - collect data that comprises sensor values from said sensor;
 - detect a first value from said sensor values having a first threshold value; and,
 - detect a second value from said sensor values having a second threshold value within a time window;
 - signify a prospective event;
 - compare said prospective event to a characteristic signal associated with a typical event and eliminate any false positive events;
 - signify a valid event if said prospective event is not a false positive event;
 - save said valid event in said memory that comprises information within an event time window as said data;
 - store said data in said memory; and,
 - transmit said data via said radio.

E. Asserted Grounds of Unpatentability

Petitioner challenges claims 1, 4–7, 9, 11, 14–16, and 19 on the following grounds.

Reference(s)	Basis	Challenged Claims
Mahajan, ¹ Edis, ² Su, ³ and Wilson ⁴	§ 103(a)	1, 5, 7, 11, 15, and 19
Mahajan, Edis, Su, Wilson, and Oleson ⁵	§ 103(a)	4
Mahajan, Edis, Su, Wilson, and Johnson ⁶	§ 103(a)	6
Mahajan, Edis, Su, Wilson, and Eyestone ⁷	§ 103(a)	9
Majahan, Edis, Su, Wilson, and Dugan ⁸	§ 103(a)	14 and 16

¹ U.S. Patent Application Pub. No. 2006/0025229 A1, pub. Feb. 2, 2006 (Ex. 1005) (“Mahajan”).

² U.S. Patent Application Pub. No. 2010/0144414 A1, pub. June 10, 2010 (Ex. 1007) (“Edis”).

³ U.S. Patent Application Pub. No. 2010/0323794 A1, pub. Dec. 23, 2010 (Ex. 1015) (“Su”).

⁴ U.S. Patent Application Pub. No. 2010/0103269 A1, pub. Ap. 29, 2010 (Ex. 1019) (“Wilson”).

⁵ U.S. Patent Application Pub. No. 2009/0048044 A1, pub. Feb. 19, 2009 (Ex. 1011) (“Oleson”).

⁶ U.S. Patent No. 5,610,590 (Ex. 1017) (“Johnson”).

⁷ U.S. Patent Application Pub. No. 2006/0166738 A1, pub. Jul. 27, 2006 (Ex. 1010) (“Eyestone”).

⁸ U.S. Patent Application Pub. No. 2008/0085778 A1, pub. Apr. 10, 2008 (Ex. 1008) (“Dugan”).

Petitioner also provides a Declaration from Dr. Steven M. Nesbit (“Nesbit Declaration”). Ex. 1003.

II. ANALYSIS

A. *Claim Construction*

In an *inter partes* review, a claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears. 37 C.F.R. § 42.100(b); *see Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (holding that 37 C.F.R. § 42.100(b) “represents a reasonable exercise of the rulemaking authority that Congress delegated to the . . . Office”). Under the broadest reasonable construction standard, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definition for a claim term must be set forth in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). We must be careful not to read a particular embodiment appearing in the written description into the claim if the claim language is broader than the embodiment. *In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993).

1. “*said data*”

Independent claim 1, and other dependent claims, recite “said data.” Petitioner asserts that “said data” is indefinite. Pet. 8. Dr. Nestbit contends that the term is indefinite because “it is unclear whether ‘said data’ refers to the data collected by the microcontroller, the data received at the computer, or even the motion analysis data.” Pet. 8; Ex. 1003 ¶ 46. In the alternative, Petitioner asserts that “if the Board deems that this term can be construed

under the broadest reasonable interpretation standard, the proper construction includes ‘data that comprises sensor values.’” Pet. 8 (citing Ex. 1003 ¶ 47). Patent Owner disagrees that “said data” is indefinite, and instead asserts that “said data” should be construed as “data that comprises sensor values.” Prelim. Rep. 6. Aside from the indefiniteness issue, Petitioner and Patent Owner appear to agree as to the proper construction of “said data.” That would appear to weigh in favor of Patent Owner’s position that “said data” is not indefinite. Notwithstanding the apparent disagreement concerning this term, we do not opine further on this issue at this time, as construction of the term is not necessary to any determination made herein.

2. Other Claim Terms

We determine that no express construction of any other claim terms is necessary.

B. Unpatentability of Independent Claims 1, 5, 7, 11, 15 and 19 over Mahajan, Edis, Su, and Wilson

Petitioner contends that independent claims 1 and 19, and dependent claims 5, 7, 11, and 15, are unpatentable over Mahajan, Edis, Su, and Wilson. Pet. 3, 21–46 (citing Exs. 1003, 1005, 1006, 1007, 1015, 1019). Patent Owner disagrees. Prelim. Resp. 13–49.

1. Mahajan (Ex. 1005)

Mahajan is directed to motion tracking and analysis. Ex. 1005 ¶ 2. More specifically, Mahajan discloses:

The present invention provides for an orientation and position tracking system in three-dimensional space installed on or in a moveable object that utilizes inertial and other sensors for determining real-time motion parameters and real-time wireless transmission of that motion information to an external computer system (including PDA, cellular phone, or over a network).

Ex. 1005 ¶ 30. According to Mahajan, the information can then be displayed and presented to the user through a variety of means, including audio, visual, and tactile. Ex. 1005 ¶ 8. For example, “[i]n one embodiment, the present invention provides for an intelligent golf club . . . that provides golfers with real-time, precise and dynamically presented data, including swing analysis.” Ex. 1005 ¶ 30.

2. *Edis (Ex. 1007)*

Edis is titled “System and Method for Gathering and Analyzing Objective Motion Data” (Ex. 1007, [54]) and is directed to analysis and display of qualitative outcomes regarding object data in sports entertainment (*Id.* ¶ 3). Edis describes one embodiment as collecting data by a processor where analysis of the data is performed in real time. *Id.* ¶ 49. A punch, such as in boxing, is detected and identified as a “punch event” within a stream of continuous data. *Id.* ¶ 50. Regarding identifying the punch, Edis explains that,

[a] thresholding scheme combines the acceleration along all three axes to detect and identify the punch. When a value exceed a preset threshold limit, the system can register a punch and begin analyzing the continuous data to determine the type, motion, and other statistical data of a punch. Complete analysis of a punch can take into account data that occurs before the threshold limit is passed.

Id. Edis further describes that deceleration data can be used to determine when the punch ended. *Id.* ¶ 55.

3. *Su (Ex. 1015)*

Su is titled “Sensor Based Human Motion Detection Gaming with False Positive Detection” (Ex. 1015, [54]) and is directed to:

A sensor based human motion detection gaming with false positive detection uses a single sensor or a combination of sensors to measure the physical motions of the player and then uses this motion as input in an interactive game. The interactive game resides on a mobile host such as a mobile phone. The system uses algorithms on the data gathered by the sensors to determine the current physical activity being performed by the player. Game play progression is then based on the physical activity being performed. The system also filters data to detect cheating patterns that may be used by a player to gain an unfair advantage in a game that uses such a system

Id., Abstract.

4. *Petitioner's Position*

Independent claim 1 recites “[a] motion capture element comprising . . . a sensor configured to capture any combination of values associated with an orientation, a position, a velocity, and an acceleration of said at least one motion capture element.” Petitioner cites Mahajan for disclosing sensors that determine orientation, position, acceleration, and angular velocity of a moveable object. Pet. 22–23. Independent claim 1 recites further “[a] motion capture element comprising . . . a radio; [and] a microcontroller” configured to collect, store, and transmit data. Petitioner cites Mahajan for disclosing wireless data transmission 20, which includes transmitter circuit 52 and antenna 54, and a microcontroller 50, which receives data from angular rate sensors 42, 44, 46, and delivers data to the transmission system. Pet. 23–24 (citing Ex. 1005 ¶ 37).

Independent claim 1 recites also “[a] motion capture element comprising . . . a memory.” Petitioner provides the following analysis concerning this “memory” limitation:

By the time the first application leading to the '521 patent was filed in 2010, it was common for motion capture elements, and any system with data processing capabilities, to comprise a memory for storing data captured from sensors. Ex. 1003, ¶ 115. Mahajan discloses “a motion capture element comprising a memory” as recited in elements [1B] and [19B]. *See id.*; Appendix A limitations [1B] and [19B]. Mahajan explains that the motion capture element may include “an on-board memory for storing the orientation and position information.” Ex. 1005, ¶ 42; Ex. 1003, ¶ 115. Mahajan teaches that “[t]he apparatus can be used alone or in conjunction with other hardware . . . or software . . . and may be adapted for wired transmission of data, wireless transmission of data, or **for storage of data on the apparatus.**” *Id.*, ¶ 127 (emphasis added); Ex. 1003, ¶ 115. Thus, Mahajan teaches that the on-board memory component for storage of data on the apparatus is an obvious design choice. Ex. 1003, ¶ 115. Further, being a microprocessor-based system, Mahajan inherently discloses the use of some form of memory for buffering digital data as it is being processed. *See* Ex. 1005, ¶¶ 38 and 43; *see also, id.*, ¶ 6 (incorporating Lee by reference which discloses the claimed memory on the motion capture element as a “internal ring buffer memory for capturing data.” *See, e.g.,* Ex. 1006, Abstract and 2:51–53.); Ex. 1003, ¶ 115.

Pet. 21–22.

With regard to the configuration of the microcontroller recited in claim 1, Petitioner relies on the combination of Mahajan and Wilson. Pet. 24–25. For example, independent claim 1 recites that the microcontroller is configured “to estimate an initial orientation based on motion capture data from two points in time.” As for Mahajan, Petitioner states that Mahajan determines position and orientation relative to the earth’s gravity and an electronic compass can be used to provide absolute position and orientation. *Id.* 25 (citing Ex. 1005 ¶ 32). As for Wilson, Petitioner asserts that the technique for determining orientation in a sensor-based system is disclosed

by Wilson’s description of an algorithm and technique that is “more detailed and is an improvement on a system that just uses gyroscopes, which is what Mahajan discusses.” Pet. 25–26 (citing Ex. 1019 ¶ 22–23).

Independent claim 1 further recites that the microcontroller is configured to: detect a first and second threshold, signify a prospective event, compare the prospective event to a characteristic signal and eliminate any false positive events, and signify a valid event, if said prospective event is not a false positive event. For these microcontroller functions, Petitioner relies on the combinations of Mahajan, Edis, and Su. For example, Petitioner asserts that Mahajan detects thresholds because the iClub can sense a real swing versus a warm up swing. Pet. 27. Petitioner alternatively relies on Edis as disclosing thresholds in detecting a boxing punch. Pet. 28–29. Finally, Petitioner relies on Su as discussing reaching “local minima and maxima” thresholds in its method of false positive detection. *Id.* at 29.

Petitioner provides similar analyses for independent claim 19, and adds that the limitation of maintaining a communication link is disclosed by Mahajan. Pet. 40–41. Petitioner asserts that the Pitcher and Catcher embodiment of Mahajan discloses that once the “Catcher is listening, the Pitcher transmits data to the Catcher for up to two seconds while the Swing Detect function determines whether data from an active swing is being transmitted.” *Id.* at 40 (citing Ex. 1005 ¶ 117). Petitioner asserts that it “would be an obvious design choice for the motion capture element microcontroller to perform a task of detecting swings.” *Id.* at 41. In summary, Petitioner alleges that Mahajan maintains a communication link as recited in claim 19 because the “time interval between transmission of packets related to a swing is less than the two or more seconds the Pitcher

has to wait for its next turn with the Catcher when there is no swing.”

Pet. 41.

3. *Analysis of Independent Claims 1 and 19*

Patent Owner makes several arguments against institution of trial for the challenged claims. We only address below those arguments that were persuasive in our determination not to institute trial in this proceeding.

Microcontroller

Claims 1 and 19 recite that the “microcontroller is configured to [1] detect a first value from said sensor values having a first threshold values; and [2] detect a second threshold from said sensor values having a second threshold value within a time window; [3] signify a prospective event; [4] compare said prospective event to a characteristic signal associated with a typical event and eliminate any false positive events; [5] signify a valid event if said prospective event is not a false positive event.” Ex. 1001, 56:58–65. Petitioner refers to the combination of Mahajan and Edis as meeting one of these limitations (number [3], as listed above), and refers to Mahajan, Edis, and Su for the others. Pet. 27–37. Patent Owner argues that “the microprocessor disclosed in Mahajan does not perform *any* event identification functions, let alone the detailed multi-stage process that is recited in claim 1.” Prelim. Resp. 23. In particular, Patent Owner argues that all associated data processing takes place at the computer, not at the motion capture device. *Id.* We agree with Patent Owner.

As Patent Owner argues (Prelim. Resp. 23–24), Mahajan states that the “[t]he main objective of the microcontroller is to receive data from the sensors, manipulate the data and send it to the wireless transmitter.”

Ex. 1005 ¶ 45. The data processing, such as processing the sensor data and

the 3D golf club model to match for a possible golf swing pattern, occurs at the computer receiving the data from the motion capture apparatus. *See* Ex. 1005 ¶¶ 51–57; Figs. 6 and 7. Petitioner does not argue that Mahajan discloses performing these functions at the microcontroller.

Furthermore, Petitioner has not shown sufficiently that a skilled artisan would have had reason to modify Mahajan’s microcontroller such that these functions would be performed by the microcontroller. Petitioner argues that a person of ordinary skill would have been able to program these functions in either the microcontroller of Mahajan’s iClub or the mobile device. *See, e.g.*, Pet. 28. In support, Petitioner contends “whether specific functionality is implemented in the software running on the iClub or software running on the mobile device is a matter of design choice.” Pet. 27–28 (citing Ex. 1003 ¶ 123, Ex. 1005 ¶ 62). The argument that implementing the software in the iClub would be a matter of design choice is conclusory, and lacks sufficient factual support. *See* Prelim. Resp. 26–27. Although the Petition mentions power consumption, cost, and speed as possible considerations affecting the purported design choice, the Petition does not explain sufficiently how these factors affect or motivated the alleged design choice advanced by Petitioner. *Cutsforth, Inc. v. Motivepower, Inc.*, No. 2015–1316, slip. Op. 7–8 (Fed. Cir. Jan. 22, 2016) (“Merely stating that a particular placement of an element is a design choice does not make it obvious. The Board must offer a reason for why a person of ordinary skill in the art would have made the specific design choice” alleged by Petitioner.).

First and Second Threshold Values

Claims 1 and 19 recite that the “microcontroller is configured to [1] detect a first value from said sensor values having a first threshold value; and, [2] detect a second value from said sensor values having a second threshold value within a time window.” Ex. 1001, 56:58–57 (“threshold limitations”). Petitioner refers to Mahajan, Edis, and Su as disclosing the threshold limitations. Pet. 27–31. As stated above, Petitioner appears to propose three alternative theories:

- a) Mahajan alone teaches the threshold limitations;
- b) Edis teaches the limitations and its teachings are combined with Mahajan; and
- c) Su teaches the limitations and its teachings are combined with Mahajan.

Pet. 27–31. We are persuaded by Patent Owner’s arguments that none of Petitioner’s theories have merit.

First, Petitioner relies on Mahajan to assert that as a data acquisition system, it must have used thresholds to operate because the threshold limitations “reflect a basic function of any data acquisition system.” Pet. 27 (identifying the limitations as 1[H] and 19[G]). The Petition points out Mahajan’s disclosure of a “warm up” versus a “real swing” is evidence of a threshold, but the Petition’s logic is flawed because a single threshold could be used to distinguish between a “warm up” and “real swing.”

Second, Petitioner argues that Edis explicitly discloses the limitation. Pet. 28. Petitioner refers to Edis’s disclosure that, in boxing, it uses thresholds applied to sensor data to determine and track the type of punches thrown. Pet. 28–29 (citing Ex. 1007 ¶¶ 85, 50, 60–63, 125). Edis explains

that “[w]hen a value exceeds a preset threshold limit, the system can register a punch and begin analyzing the continuous data to determine the type, motion, and other statistical data of a punch . . . tak[ing] into account data that occurs before the threshold limit is passed.” Ex. 1007 ¶ 50. According to Petitioner, this disclosures teaches “detecting that a motion has begun when the sensor value reaches a first threshold, and detecting that the motion has completed when a sensor value decelerates to a threshold indicating the motion has ended.” Pet. 29 (citing Ex. 1003 ¶ 125). See Ex. 1007 ¶ 55 (“The duration of each punch can be found by using a clock to time a punch starting when acceleration starts and ending at hit, block, or miss. If a thresholding level is used as a cue that a punch has begun, analysis software can be used to determine when the punch actually started, not just when the threshold was met. A rule can be set so that a punch starts when a sharp acceleration begins. Deceleration data can be used to determine when the punch ended.”).

Patent Owner argues (Prelim. Resp. 34) that Edis describes using a “thresholding level” to determine that a punch has begun, but that Edis describes no second threshold. Prelim. Resp. 34; Ex. 1007 ¶¶ 55–58. In particular, Patent Owner makes the point that the Petition does not explain how the deceleration data relied on by Petitioner is linked to a specific time window. *Id.* We agree that the Petition does not explain how the deceleration data is a second threshold value *within a time window*. We infer from Edis, at best, that a clock may be used to time the punch (Ex. 1007 ¶ 55), i.e., after it has started and as the punch is happening. Petitioner does not show, however, that in Edis the end of the punch is determined with reference to or within a time window, as the claims require.

Lastly, Petitioner refers to Su and contends that “Su discloses detecting false positives within a predefined time period by checking whether sensor values reach ‘local minima and maxima thresholds.’” Pet. 29–30 (citing Ex. 1015 ¶ 45 (“Accordingly, the false positive detection can be carried in three levels. The first level is in a single predefined time period; to check if the numbers of local minima and maxima points reach a threshold.”)). Petitioner does not explain sufficiently how the “maximum and minimum values of the quantification of the patterns” teaches or suggests the recited “detect[ing] a first value from said sensor values having a first threshold value; and detect[ing] a second value from said sensor values having a second threshold value within a time window.” See Pet. 27. Specifically, in Su, there is only one value that is evaluated to determine if that one value reaches “local minima and maxima thresholds,” and not first and second values, as required by the claim. See Prelim. Resp. 35 (arguing that Su is concerned with whether the total quantity of maxima and minima points exceed a single, threshold, indicating possible cheating, but no second threshold).

Rationale to Combine Mahajan, Edis, and Su

We also are persuaded by Patent Owner’s arguments that the Petition is deficient in articulating a reasonable reason to combine the teachings of Mahajan, Edis, and Su. See Prelim. Resp. 35–36. Specifically, Petitioner has not shown sufficiently why a skilled artisan would have modified Mahajan to incorporate the recited functions, allegedly taught by Edis and/or Su. For example, Petitioner asserts that “[u]sing thresholding techniques of Edis and Su within the microcontroller of Mahajan, to for example distinguish ‘real swing versus your warm up’ motion, would have been

obvious because thresholding sensed data against pre-specified values is common to microprocessor controller DAS.” Pet. 30 (citing Ex. 1003 ¶ 127). As another example, Petitioner baldly states that for “signifying a prospective event,” “it would have been obvious to a person of ordinary skill at the time of the invention to combine Edis with Mahajan, for example, as the way to distinguish a real swing from warm up motion, as is used for signifying a prospective event.” Pet. 32. Similarly, Petitioner states that the “false-positive detection methodology of Su and the variable detection strategy of Edis could have been obviously programmed in the microcontroller of Mahajan.” Pet. 34. Stating only that the functions “could have been obviously programmed” or that the combinations would yield the claim limitation is insufficient rationale. The Petition fatally omits the express articulation of a reason *why* a person of ordinary skill in the art would have combined the teachings as Petitioner asserts. *See KSR Int’l Co., v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) (“a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions”). The omission of a rationale is particularly troublesome in light of Patent Owner’s argument that there is a lack of showing of why it would have been obvious to modify Mahajan’s teachings “so that its microcontroller—with its limited resources and processing power—was responsible for swing identification, rather than the receiving computer.” Prelim. Resp. 27.⁹ And Petitioner’s reliance on Mr. Nesbit’s

⁹ We also are persuaded by Patent Owner’s arguments, and the proffered analysis, regarding the deficiencies in the portions Dr. Nesbit’s Declaration identified by Patent Owner, as they amount to conclusory opinions of a rationale for the alleged combinations and lacking factual support or objective evidence supporting those opinions. Prelim. Resp. 27–29.

Declaration is unavailing as the Declaration repeats the conclusory statement included in the Petition with no further rationale or explanation.

Maintain a Communication Link

Claim 19 recites that the microcontroller is configured to “maintain a communication link between said radio and a second radio through transmission of information via said radio at a first communication interval when no valid event has occurred over a predetermined first period wherein said first communication interval between transmission of information is longer than a time interval between transmission of packets related to said valid event or transmission of said data.” As stated above, Petitioner relies on the Pitcher and Catcher embodiment of Mahajan as disclosing this limitation. Pet. 39–41. As Patent Owner argues, however, the Pitcher does not transmit any information to the Catcher, until the Pitcher’s next turn. Prelim. Resp. 43. Accordingly, under Petitioner’s theory, Mahajan does not maintain a communication link during the time period when the Pitcher is not transmitting information (when no valid event has occurred), “because the Catcher would necessarily be connected to the next Pitcher in the object array.” *Id.* Therefore, we are not persuaded that Petitioner has shown that Mahajan discloses this limitation.

4. *Conclusion*

In sum, we determine that Petitioner has failed to establish a reasonable likelihood of prevailing with respect to independent claims 1 and 19, and, therefore, with respect to the challenged dependent claims, over the asserted grounds.

III. ORDER

It is ORDERED that the Petition is *denied*, and no trial is instituted.

IPR2016-00672
Patent 8,903,521 B2

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