

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SKYHAWKE TECHNOLOGIES, LLC,
Petitioner,

v.

L&H CONCEPTS, LLC,
Patent Owner.

Case IPR2014-00437
Patent 5,779,566

Before JAMES T. MOORE, PATRICK R. SCANLON, and
MITCHELL G. WEATHERLY, *Administrative Patent Judges*.

MOORE, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Inter Partes Review
35. U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

SkyHawke Technologies, LLC (“Petitioner”) filed a Petition (Paper 1, “Pet.”) to institute an *inter partes* review of claims 8–11, 14, and 18 of U.S. Patent No. 5,779,566 (Ex. 1001, “the ’566 patent”) pursuant to 35 U.S.C. § 311. Patent Owner L&H Concepts, LLC (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”) to the Petition. We instituted *inter partes* review of claims 8–11, 14, and 18 in a decision dated August 21, 2014 (Paper 7, “Inst. Dec.”).

Claims	Ground	References
8–11, 14, and 18	§ 103	Palmer, ¹ Osamu, ² and Vanden Heuvel ³

Patent Owner responded to the Petition by arguing, *inter alia*, the combination of references would not have been made by one of ordinary skill in the art, the prior art does not teach every element of the claims, and the testimony of the Petitioner’s witness lacks credibility and should be given no weight (Paper 19, “PO Resp.”). We entertained oral argument in this proceeding on April 27, 2015. A transcript of the hearing is included in the record. Paper 30.

The Board has jurisdiction under 35 U.S.C. § 6(c). In this Final Written Decision, issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73, we determine that the record adduced at trial supports a conclusion that Petitioner has demonstrated by a preponderance of the evidence that the

¹ WO 92/04080, Mar. 19, 1992 (Ex. 1005, “Palmer”).

² GB 2 249 202 A, Apr. 29, 1992 (Ex. 1006, “Osamu”).

³ US 5,426,422, June 20, 1995 (Ex. 1007, “Vanden Heuvel”).

claims for which trial was instituted, claims 8–11, 14, and 18, are unpatentable.

II. THE '566 PATENT

The '566 patent is involved in litigation. Petitioner states that the '566 patent is asserted in co-pending civil action *L&H Concepts, LLC v. SkyHawke Technologies, LLC*, No. 2:13-cv-00199-JRG (E.D. Tex.). Pet. 2–3. We observe that the civil action has been transferred to the Southern District of Mississippi as No. 3:14-cv-00224. An amended order staying that proceeding was entered July 7, 2014. Docket Entry 76. A motion is pending to lift the stay. *See* *L&H Concepts, LLC v. SkyHawke Techs, LLC*, No. 3:14-cv-00224(S.D. Miss. Apr. 10, 2015)(Docket Entry 83)(“MOTION to Lift Stay for Purposes of Fact Discovery by L&H Concepts, LLC”).

The '566 patent was also involved in an ex-parte reexamination proceeding, number 90/008,817. A reexamination certificate, US 5,779,566 C1, was issued on March 31, 2009. The patentability of claims 1–37 was confirmed during that proceeding. A final decision in IPR2014-00438, which challenges different claims of the '566 patent, is being issued on the same day as this decision.

The claims relate to a computer with a display for user interaction before, during, and after a game. The unit is said to be a “recording, reporting and advising” unit. Ex. 1001, Abstract.

III. ILLUSTRATIVE CLAIM

Claim 8 of the '566 patent is a method claim and illustrative of the claims at issue in this proceeding:

8. A method for recording and reporting golf information to increase a player's ability to improve from experience, comprising the following steps:

storing a plurality of pre-game, game-interactive and post-game information screens in a memory of a computer unit having a display for selectively displaying one or more of the information screens, the information screens including screen-dependent data input fields for entry of data;

displaying in sequential fashion one or more pre-game information screens and prompting entry of data which defines parameters of an upcoming game;

providing a choice among a plurality of game-interactive information screens for recording data during the game defined by the parameters entered in the pre-game information screens;

displaying a chosen game-interactive information screen;

entering data in the chosen game-interactive information screen corresponding to a game as the game is played and simultaneously recording entered data in the memory of the computer unit;

providing post-game reports based on the data entered in the game-interactive information screen; and

providing one or more game-interactive advice/feedback information screens.

Ex. 1001, 18:5–30.

IV. ANALYSIS OF CLAIM CHALLENGES

A. The Level of Ordinary Skill in the Art in 1993

We first turn to the testimony of the Petitioner’s witness, Professor Carl A. Gutwin (hereinafter “Dr. Gutwin”). We look to this Declaration to discern his viewpoint on the level of ordinary skill in the art. He testifies that he has more than 20 years of experience in the field of computer science and computer-human interaction. Ex. 1012 ¶ 3. His credentials and CV provide sufficient evidence for us to deem him to be an expert witness. *Id.* ¶¶ 4–9, App. A.

According to Dr. Gutwin, the relevant field is human-computer interaction. *Id.* ¶ 11. Also according to Dr. Gutwin, the prior art demonstrates that a person of ordinary skill in the field at the time the '566 patent was effectively filed, was aware of and capable of designing key-based interactive systems using known interface techniques. *Id.* ¶ 13.

Patent Owner's witness, Mr. Alan Ball, while not having as extensive an educational background as Dr. Gutwin, nonetheless has significant experience. Ex. 2014 ¶¶ 5–10. His experience persuades us that he too is qualified as an expert witness. According to Mr. Ball, the field is to be more narrowly circumscribed than Dr. Gutwin has indicated. Instead of human computer interaction, Mr. Ball thinks the more appropriate field is handheld sports, particularly golf, recording devices. *Id.* ¶ 11.

We think neither witness is persuasive on this point, and the inventor's original disclosure is closer to the actual state of the art at the time the invention was made.

We thus turn to the Patent Specification, at Ex. 1001, 2:27–40, as representative of a more objective form of evidence.

In its most basic form the inventive apparatus is a comfortably handheld, self-contained computer unit having a non-volatile memory, a power source, a general output display for selectively displaying a plurality of informational screens stored in the memory, and a program that determines logical screen and information sequence and processes the data entered. The unit is provided with key entry means for retrieving and selectively displaying various screens from the memory on the display and for entering game data into each screen to be stored in the memory. The provision of a general output display, the variety of specialized screens for organization of data, and the handheld portability of the invention result in a device with nearly unlimited potential.

We believe this passage reflects most fairly the field of the invention. Therefore, we find the field to be that of portable computing devices for the entry, organization, and analysis of data, including, but not limited to, sports data.

As to the level of skill in this field, Patent Owner asserts that the parties are in agreement that the level of ordinary skill in the art in 1992 was relatively low. Paper 19, 10. Petitioner’s expert, Dr. Gutwin, stated in his Declaration that the level of ordinary skill was a “person to whom an expert in the relevant field could assign a routine task with reasonable confidence that the task would be successfully carried out.” Ex. 1012 ¶ 13.

Moreover, Patent Owner asserts that Dr. Gutwin confirmed in deposition that he did not believe that there was either a minimum educational threshold or a minimum experience requirement to qualify as a person of ordinary skill. Ex. 2015, 101–02. Patent Owner’s witness, Mr. Ball, is said to confirm the relatively immature state of the art in handheld devices in 1992. Ex. 2014 ¶¶ 19–20.

Petitioner responds that “a person skilled in the art at the time the ’566 patent was filed was a generalist having an understanding of the design principles applicable to handheld key-based systems, whether the device was to be used for sports or personal communication, for example.” Paper 22, 6. Petitioner points to Patent Owner’s witness testimony that he “was at least one of ordinary skill in the art in 1992” (Ex. 2014 ¶ 19), based on his experience. Paper 22, 6 (citing Ex. 2014 ¶ 10; Ex. 1033, 94:11–17).

We have determined that Mr. Ball’s testimony as to the level of ordinary skill in the art is most credible and accurate — while the level of skill in the pertinent time period was somewhat low — that “an ordinary

artisan would have at least some experience working in the field” either “designing or building” portable computing devices. Ex. 2014 ¶ 18. In other words, the skilled artisan would have had an understanding of what was practicable at the time of the invention.

B. Claim Construction

The Board interprets unexpired claims using the “broadest reasonable construction in light of the specification of the patent in which [they] appear[.]” 37 C.F.R. § 42.100(b); *see also* Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012); *In re Cuozzo Speed Techs., LLC*, No. 2014-1301, 2015 WL 4097949, at *6 (Fed. Cir. July 8, 2015). The ’566 patent expires July 14, 2015. *See* Ex. 1001.

We note, for completeness of the record, that our decision remains unchanged under either the “broadest reasonable interpretation” standard or the district court standard of construing each claim of the patent in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent

As Figure 1 of the instant patent provides a visual frame of reference that is useful in understanding the claim language, Figure 1 is reproduced below.

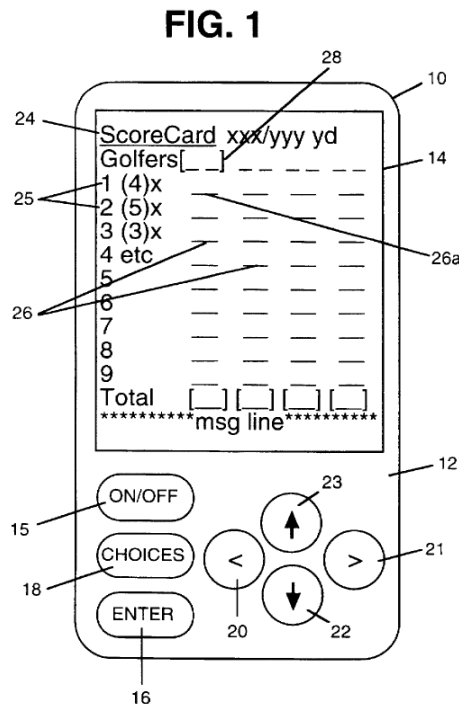


Figure 1 is a plan view of an embodiment of the '566 patent.

i. Preamble Language

Petitioner concludes that the preambles of the claims are non-limiting. Pet. 17. Patent Owner disagrees. Prelim. Resp. 4. Patent Owner asserts that the preambles give life to the meaning of the claims in reciting an apparatus for recording and reporting data from golf or sports events. *Id.* Patent Owner states that "Patent Owner accepts the claim constructions set forth by the Board in the Institution Decision." PO Resp. 2. As Patent Owner has not pointed to any additional persuasive argument, referencing only its prior arguments, we reiterate the previous determination, and note that further arguments are waived on this point.

We find that the preamble is non-limiting. A claim preamble has the import that the claim as a whole suggests for it. When the claim preamble recites structural limitations of the claimed invention, the PTO and courts give limiting effect to that usage. Conversely, when the claim body defines

a structurally complete invention and the preamble only states a purpose or intended use for the invention, the preamble is not limiting. *Rowe v. Dror*, 112 F.3d 473, 478 (Fed. Cir. 1997).

While the preambles in the challenged claims may give some overall context for the claim limitations, we find that they are not necessary to give life to the claim terms or breathe meaning into the claims. The claims and the Specification indicate that the challenged claims may be used in the field of golf or similar sporting events, without necessarily limiting their application only to golf.⁴ We observe that claims 9–11 and 18 each contain specific references to golf in the body of the claim. Ex. 1001, 18:31–65, 21:10–34. Claims 8 and 14 do not. *Id.* at 18:5–30, 19:34–62. In any event, as Palmer describes a handheld golf device, for purposes of this decision we see no practical difference in whether the “golf” portion of the preamble applies to the challenged claims, as handheld golf devices were well known.

ii. Pre-Game Data Entry

Claims 8 and 18 use the phrases “pre-game” screen or “providing a pre-game mode of data entry in which one or more pre-game information screens are displayed to prompt the entry of data which defines parameters of an upcoming game, and providing a choice of at least one of a plurality of

⁴ *See, e.g.*, Ex. 1001, 2:20–22 (“The present invention is a greatly improved handheld computer unit for recording and reporting sports information, for example golf information”); *see also id.* at 16:47–53 (“The inventive handheld reporting unit and method of operation is of course not limited to the game of golf, as those skilled in the art will be able to adapt the invention to almost any sport or game for which it is desirable to record and report a large amount of data. Golf is the game for which the invention is best suited, but not the only game to which it can be applied.”)

game-interactive information screens in a subsequent game-interactive mode of operation representing different levels of data recording detail.”

Ex. 1001, 18:5–30, 21:10–34. Petitioner asserts that this requires the user to be able to select, in a pre-game mode, the amount of detail to record later in a game interactive mode. Pet. 16.

Patent Owner does not provide any specific claim construction, but asserts multiple errors with the Petitioner’s construction, and that the claim language “is clear on its face and needs no additional construction.” Prelim. Resp. 9. In its Response, the Patent Owner effectively asserts that “pre-game,” to have a meaning distinct from game interactive, must not include game play or practice. PO Resp. 20.

While the claims are lengthy, they are easily understood without reference to additional sources. We observe that no particular order of steps is recited or required except where expressly temporally limited in the claim (e.g., pre-game, game interactive, and post-game). We determine that pre-game means at any time prior to a game. Likewise, game-interactive means during a game, and post-game means after a game.

V. ANALYSIS

We turn now to the instituted ground of unpatentability. We consider the arguments made by Petitioner in the Petition and the Petitioner’s Reply (Paper 22, “Pet. Reply”), as well as the arguments in Patent Owner’s Response, in determining whether Petitioner has prevailed.

Petitioner initially urged that the “references addressed below provide the teachings believed by the [E]xaminer to be missing from the prior art and render obvious the challenged claims.” Pet. 17. We observe that this is an incorrect standard. The Petitioner bears the burden to present sufficient

evidence in the Petition and whatever rebuttal evidence is permitted during trial; reference to a prior examination or reexamination proceeding is not normally persuasive evidence in these trial proceedings.

A. Claims 8–11, 14, and 18 under 35 U.S.C. § 103(a) as unpatentable over Palmer, Osamu, and Vanden Heuvel

Claims 8–11, 14, and 18 were challenged as being unpatentable over the combination of Palmer, Osamu, and Vanden Heuvel. These claims are method claims reciting steps utilizing a computer having a memory and display screens. Ex. 1001, 18:5–21:34.

i. Palmer (Ex. 1005)

Palmer describes a handheld device for determining a golf play parameter. Ex. 1005, Abstract. In general, Palmer describes a handheld computing device with screens, utilizing an infrared beam to determine a distance to an object to determine and display a play parameter, such as club selection for a given distance. *Id.*; Pet. 21.

Page 5⁵ of Palmer is cited by Petitioner to illustrate a keypad connected with a processing means for the input of data related to play and the actuations of given functions. Pet. 21. In one embodiment, Palmer describes that the read only memory contains a club selection database. Program instructions and algorithms used by the processor determine the appropriate club for a given distance. This determination is said to be with or without reference to data concerning the personal performance of the user stored in the device. The device also contains instructions for interactive training exercises, player performance analysis, and/or score keeping. *Id.*

⁵ Citation is to the Exhibit page, not the original pagination within the reference.

Figure 3 is illustrative of the device of Palmer, illustrating a screen, a handheld unit, and input keys, and is reproduced below.

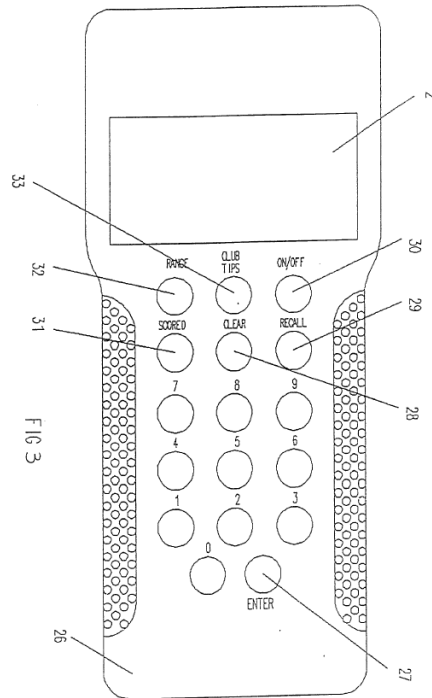


Figure 3 is a plan view of a handheld golf device of Palmer.

ii. Osamu (Ex. 1006)

Osamu describes a device and method for recording and reporting golf information to increase a player's ability to improve from experience.

Pet. 21 (citing Ex. 1006, 13, Fig. 3). Osamu Figure 3 is also illustrative, and reproduced below.

Fig.3

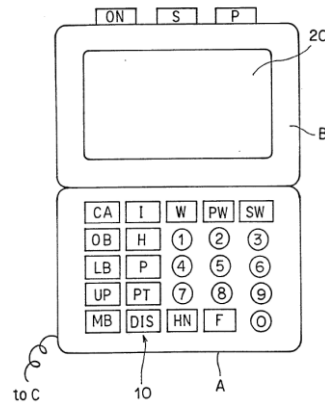


Figure 3 is a plan view of a portable golf device of Osamu.

Osamu describes a handheld electronic golf computer carried by a golfer and used to store location, score, and club selection data. Ex. 1006, Abstract. During a game-interactive mode, two game-interactive recording information screens are presented to the golfer. First, a scorecard screen, and second, a separate screen allowing the golfer to input the location of each shot on a given hole and the club used for each shot to track them. *Id.* at 19. The carry distances for each shot are saved and displayed to the golfer. *Id.*

iii. Vanden Heuvel (Ex. 1007)

Vanden Heuvel describes a handheld electronic selective call receiver permitting user data input by cursor movement keys 40b, 40d, 40e, or 40f, which permit an adjustment of values in particular screens. Ex. 1007, 9:5–26; Pet. 24. Figure 2 is illustrative and reproduced below.

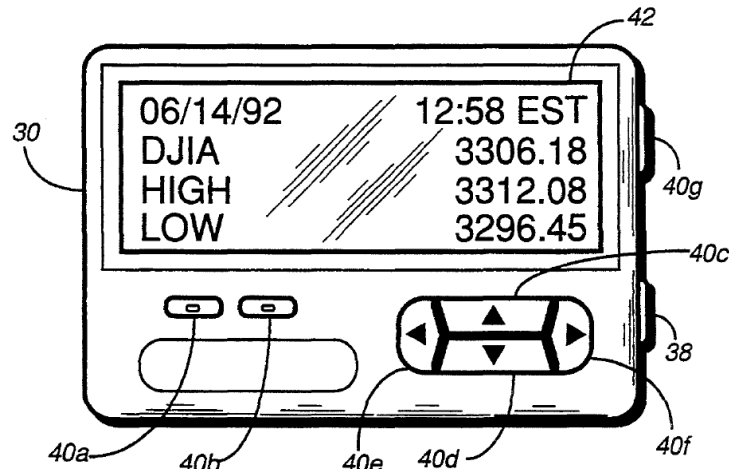


FIG. 2

Figure 2 is a front plan view of a portable pager device of Vanden Heuvel.

iv. The Combination of References

According to Dr. Gutwin, a person of ordinary skill in the art at the time the invention was made would have combined the display, processor, and inputs of Palmer's handheld device with the teachings of Vanden Heuvel (Ex. 1007) relating to a portable pager device having sequential screens and prompts, as doing so represented nothing more than the simple substitution of a screen-dependent input for a keypad to yield predictable results. Ex. 1012 ¶ 78.

Also according to Professor Gutwin, the size and handheld nature of the device limits the number of input buttons that may be incorporated reasonably into the design. *Id.* ¶ 70. Vanden Heuvel's buttons allow a user to scroll sequentially or non-sequentially. *Id.* ¶ 75 (citing Ex. 1006, 5:61–6:19, Figs. 13–15). Professor Gutwin also testifies that it would have been obvious to one of ordinary skill:

tasked with designing a handheld golf computer utilizing a screen-based navigation structure and screen-dependent data input

methodology would look to other known types of key-based systems utilizing these features – for example, personal computers and the third-party software operating thereon, pagers (i.e., Vanden Heuvel), remote controllers, etc. – to discern the various implementation options currently being employed by skilled practitioners.

Id. ¶ 69.

Finally, Professor Gutwin testifies that a person of ordinary skill in the art would have combined the teachings of Osamu with the device of Palmer because both use temporal screen sequences, and because the Palmer’s club selection screen corresponds directly to the shot tracker screen. Ex. 1012 ¶¶ 57–60. Professor Gutwin testifies that including the shot tracker would enable one using the Palmer device to enhance the golfer’s ability to learn from past performance. *Id.* ¶ 60

Patent Owner asserts that Petitioner has not set forth a rationale why one of ordinary skill in the art would seek to modify the Palmer reference as Petitioner asserts. PO Resp. 2–3. Patent Owner asserts that given the level of ordinary skill in the art at the time of the invention, Petitioner has failed to establish that one of ordinary skill in the art would have had reason to believe that the technology of Vanden Heuvel could even be employed in the system of Palmer. *Id.* at 3 (citing Exhibit 2014 ¶¶ 26–31); *see also id.* at 15–19 (arguing that the combination of Palmer and Vanden Heuvel is improper because the technology disclosed in Vanden Heuvel is fundamentally unsuitable for use in the device of Palmer).

Patent Owner’s witness, Mr. Ball, testifies that the reasons stated by Petitioner for combining Palmer with Vanden Heuvel are lacking. Mr. Ball challenges Petitioner’s assertion that one of ordinary skill in the art would have modified Palmer in view of Vanden Heuvel to “increase the [Palmer]

device's display size, thereby rendering the device more easily usable on the golf course.” Ex. 2014 ¶ 26 (citing Pet. 20).

Mr. Ball points to Palmer Figure 3 (reproduced above on page 12) and notes that there is more than enough space to enlarge the screen in Palmer. Ex. 2014 ¶ 27. Mr. Ball also challenges the practical design considerations, including removal of buttons making operation more challenging (*id.* ¶ 29–30) and increased power consumption (*id.* ¶ 31). While drawings are not necessarily to scale or indicative of what may be operationally behind the cover of a device, this argument and evidence has some merit and persuasive value.

We do think this additional testimony undercuts at least one portion of the motivation rationale put forth by the Petitioner. Based on the preponderance of the evidence, we are not persuaded that one of ordinary skill in the art at the time the invention was made would have made the combination for one reason advanced by Dr. Gutwin — increasing the display size.

Petitioner, however, also argues more generically that the '566 patent's claimed replacing of numeric or alphanumeric character keys with a set of tab and scroll keys was a simple design choice widely employed by skilled artisans well before the priority date of the '566 patent. Pet. 9. In more detail, it is urged that:

A person of ordinary skill would have combined the teachings of Vanden Heuvel with the handheld electronic device of Palmer as doing so represented nothing more than a simple substitution of one known element (i.e., the keypad of Palmer) for another (i.e., the screen-dependent data input of Vanden Heuvel) to yield predictable results – namely, the entry of data into the scorecard or other fields associated with the Palmer device. Specifically, and as recognized by Palmer, one way of accomplishing data input in a handheld device is

by the use of a keyboard with function key inputs. Ex. 1005 at p. 10 and FIG. 3. However, as taught by Vanden Heuvel, another known way to input data into a handheld device is through the use of screen-dependent data fields and values adjusted using bidirectional tab or scroll keys. Ex. 1007 at 9:5-38. See also Ex. 1012 at ¶¶ 68 and 69. A person of ordinary skill in the art could have predictably implemented Vanden Heuvel's data input method into the handheld device of Palmer

Pet. 20.

This argument is buttressed firmly by Ex. 1012 ¶ 69, in which Dr. Gutwin testifies as to the search for known data entry mechanisms. We deem this testimony to be credible.

Mr. Ball challenges that testimony somewhat in his testimony at Ex. 2014 ¶¶ 32–45, *inter alia*. In essence, he points to the difficulties in using the entry mechanism of Vanden Heuvel with the Palmer system, such that the system would largely be unusable with golf. He mentions the effects of sunlight principally and the effects of using part of the screen for entry of data, relying heavily on the description in Vanden Heuvel of an alternate alert device to alert of a message.

Patent Owner in its response urges that the combination of Palmer and Vanden Heuvel is improper because the technology disclosed in Vanden Heuvel is fundamentally unsuitable for use in the device of Palmer. PO Resp. 15 (citing Ex. 2014 ¶¶ 32–36). According to the Patent Owner, one of ordinary skill at the time of the invention would have believed that replacing the keyboard of Palmer with a screen dependent input mechanism would result in a device that would be unsuitable and often unusable on a golf course for a variety of significant reasons. *Id.*

We are not persuaded that these drawbacks would have prevented one of ordinary skill from contemplating the inclusion of an alternate data entry mechanism such as Vanden Heuvel.

Indeed, one of the underpinnings of Mr. Ball’s testimony is the existence of an auxiliary alert device as indicative of a sunlight problem. However, we observe that Vanden Heuvel itself uses the alert device to inform a user a message has been received. Ex. 1007, 4:39–41. The alert could be a light or a sound. *Id.* at 5:18–22. We have not found any description in Vanden Heuvel concerning visibility outdoors.

Yet, Mr. Ball states “[i]n fact, it appears that Vanden Heuvel was even cognizant of the fact that its screen may be difficult to read and, thus included an ‘alert device 38 to alert the user that a selective call message has been received.’ . . . The alert device is either an LED light or an audio signal – neither of which are affected by direct sunlight.” Ex. 2014 ¶ 34 (citing Ex. 1007).

We find that the inclusion of an alternate alert was to provide additional alerting means, as stated in Vanden Heuvel. We find the testimony of Mr. Ball that this inclusion of an alternate alert somehow indicates Vanden Heuvel was cognizant of a visibility problem to be not credible.

Patent Owner is further of the position that the substitution rationale is “clearly legally deficient” because it does not address why one would make the combination. PO Resp. 3–4.

We believe the Patent Owner is misinterpreting the guidance of the Supreme Court in its argument.

As the Supreme Court noted:

A person of ordinary skill is also a person of ordinary creativity, not an automaton. . . . When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. . . . [We] must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 417–21 (2007).

While the Petitioner's proposed screen size motivation is no longer persuasive to this panel, we conclude that a preponderance of evidence in this trial supports a conclusion that replacing an alphanumeric keyboard with a set of tab and scroll keys was a substitution of one known data entry method with an equivalent data entry mechanism. We expressly reject the screen washout argument made, and the underlying testimony in Mr. Ball's Declaration.

Patent Owner also urges that Vanden Heuvel and Palmer are each nonanalogous art. PO Resp. 11.

In order to rely properly on a prior art reference to support a rejection, "the reference must either be in the field of the applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1447 (Fed. Cir. 1992).

Patent Owner asserts that the '566 patent is directed to a "greatly improved handheld computer unit for recording and reporting sports

information, for example golf information.’ Ex. 1001 at 2:20-26; *see also id.* at 1:8-13 (stating that the ‘Field of the Invention’ is ‘related to an apparatus and method for reporting and recording golf information and for providing golf advice’).” PO Resp. 11–12 (emphasis omitted). Patent Owner asserts that the field of the invention is strictly the recording and reporting of sports information. *Id.* at 12.

As noted above, the field of “human computer interaction” suggested by the Petitioner is far too broad. As the evidence of record from the ’566 patent itself supports a conclusion that the field is properly that of portable computing devices for the entry, organization, and analysis of data, we disagree with the Patent Owner that the handheld devices of Palmer and Vanden Heuvel are nonanalogous.

With this background in place, we return to an analysis of the claims and their language individually.

v. The Claims

Claim 8

Claim 8 is a method claim with various steps, which fall generally into the categories of storing information, displaying information, and entering information. Preamble omitted, our analysis element by element based on the evidence made of record in this trial, is below.

“storing a plurality of pre-game, game-interactive and post-game information screens in a memory of a computer unit having a display for selectively displaying one or more of the information screens, the information screens including screen-dependent data input fields for entry of data”

We observe that both Palmer and Osamu describe methods that include training exercises and recording of data to improve a player's performance. Ex. 1005, 5; Ex. 1006, 13.

Palmer, in particular, indicates that an embodiment of the invention permits "information regarding each hole on one or more golf courses may be entered by the user and stored in the non-volatile memory 5. This information can be recalled whenever the user wishes to play a golf course whose data is stored." Ex. 1005, 16.

Patent Owner is of the opinion that Palmer and Osamu do not describe "pre-game" information screens. PO Resp. 19–20. Patent Owner further asserts that each screen is at best "game interactive." *Id.* at 20. The reason for this appears to be the Institution Decision's reference to pages 10, 15, and 17 of the Palmer reference. Patent Owner asserts that none of them can be temporally pre-game screens. *Id.*

We observe that sufficient evidence of record supports a finding that Palmer describes entering data and then recalling it whenever the user wishes to play a golf course whose data is stored. This falls within a reasonable definition of a "pre-game screen."

Likewise, Palmer has express disclosure of different "game interactive screens." At page 16 Palmer states:

the device is able to store score details for up to four players in the RAM 4, including the score for each player on each hole. The device is able to display a summary of each player[']s total score and a simple analysis of their performance and relevant points during the round of golf.

Ex. 1005, 16.

As the user is interactively entering and viewing data during the game of golf, this description also fits within the reasonable definition of “game interactive.”

Finally, Palmer has express disclosure of “post-game interactive screens.” More specifically, Palmer describes “a performance analysis at the completion of a round, which might include some or all of the data listed above as well as additional data for the players other than the primary user.” *Id.* at 19. This is accomplished by “pressing the RECALL button 29 and specifying the relevant information requires in response to prompts on the LCD display 2.” *Id.*

Vanden Heuvel describes user data input by cursor movement keys 40b, 40d, 40e, or 40f, which permit an adjustment of values in particular screens. Ex. 1007, 9:5–26; Pet. 24.

“displaying in sequential fashion one or more pre-game information screens and prompting entry of data which defines parameters of an upcoming game;”

The evidence of record indicates that Palmer describes pre-game screens — for example, entering shot distances and golf course information. Ex. 1005, 10, 15–17; Pet. 22.

The Patent Owner asserts that Palmer does not describe displaying pre-game screens in a sequential fashion, and that Vanden Heuvel describes no game screen. Accordingly, the Patent Owner asserts that this element is missing from the combination. PO Resp. 21–22. More particularly:

[t]here is no discussion of using the screens in any type of order or organization, much less in a particular pre-game sequence. *Id.* at ¶40. Notably, Petitioner provides no identification of a pre-game screen sequence in the Petition or in the Palmer reference. Rather, Petitioner uses hindsight gained from the claims in combination with Vanden Heuvel, which merely

discloses an unrelated and irrelevant database sequence to foist a sequential nature to screens where it is wholly absent.

Id. at 20.

Petitioner is of the opinion that there is a sequential display of screens, and such is the natural progression of using the device during a round of golf. More particularly:

[s]uch screens, would naturally be used before a round of golf. Similarly, the golf course data screen described in the '566 patent, which includes the same par and yardage values for each hole on the golf course, is described as a pre-game screen. (Ex. 1001 7:55-60.) Moreover, common sense dictates that the golfer would enter the golf course information before he begins playing his round, *i.e.*, pre-game. Mr. Ball agreed that Palmer's golf course database would have to be populated before a round of golf. (Ex. 1033 173:9-15 ("it would have to be in the memory if it's going to use [the golf course database] in a calculation that would follow during the game").)[.]

Pet. Reply 13.

Claim 8 itself recites "one or more" pregame screens. Even one screen, prompting the entering of information prior to a game, displayed prior to the game, to permit entry of player or course information, would meet this limitation.

Evidence of record indicates that Palmer permits entry of data; even Patent Owner's expert alludes to the sequential nature of it in his Declaration: "The existing Palmer buttons were also capable of selecting data both sequentially (ENTER and RECALL) and non-sequentially (CLUB TIPS, RANGE, and number keys)." Ex. 2014 ¶ 29. We therefore agree with the Petitioner's point of view that entry of data defining the parameters

of an upcoming game – e.g., players, course, handicap – are described in Palmer.

“providing a choice among a plurality of game-interactive information screens for recording data during the game defined by the parameters entered in the pre-game information screens;”

Petitioner urges that Palmer describes various game interactive screens including one for entering shot distances with a particular club, golf course details, and player scores. Ex. 1005, 10, 17–19. Osamu is said to describe a scorecard screen and a screen for inputting shot location and club used. Ex. 1006, 18–19; Pet. 25.

Palmer expressly discusses that “[a]s the user progresses around the golf course, the relevant hole data is automatically selected and used as the basis of certain of the devices[’] indicated functions, most notably, the stroke allowance calculation and the performance analysis sections of the score keeping function.” Ex. 1005, 17.

The evidence of record supports a finding that Palmer and Osamu each describe the use of different screens during the play of the game, which screens would necessarily be selected by the user depending on the function desired.

“displaying a chosen game-interactive information screen;”

Palmer also describes several screens for in-game use. Shot tracking is one of them, club selection is another. Ex. 1005, 10, 11, 18, 19; Pet. 23. Petitioner asserts that Palmer describes score keeping screens, and Osamu describes a scorecard screen including location, carry distance, and club. Ex. 1005, 18–19; Ex. 1006, 18–19; Pet. 25. Thus, the evidence of record supports a finding that a user can choose and Palmer and Osamu can display these screens.

“entering data in the chosen game-interactive information screen corresponding to a game as the game is played and simultaneously recording entered data in the memory of the computer unit;”

Osamu describes screens for inputting tee shots at each hole, ball location, and carry data. Putting data may be entered as well. Ex. 1006, 19–20. Palmer permits the entry of scoring details for players, and Osamu describes a scorecard screen and inputting of shot location and club type. Ex. 1005, 18; Ex. 1006, 18–19; Pet. 25–26.

“providing post-game reports based on the data entered in the game-interactive information screen; and”

Palmer also describes post-game screens for performing player performance analysis. Ex. 1005, 19; Pet. 23.

Osamu also describes post-game analysis and processing using a computer in the clubhouse. Ex. 1006, 19–20.

“providing one or more game-interactive advice/feedback information screens.”

Palmer describes a game-interactive screen providing club selection tips and a performance analysis covering the round so far. Ex. 1005, 10, 19; Pet. 26.

Looking again to the rebuttal evidence of record as discussed in PO Resp. 15–19, we note that Mr. Wilens, the inventor, has testified to some evidence of secondary considerations. Ex. 2016 ¶¶ 14–15. He testifies that he met with firms including JABIL and Saturn Electronics and Engineering and met with technicians regarding the implementation of his idea. He testified that he was told that devices for outside use were “best designed using [] marked keys and [he] encountered surprise in proposing an alternate

way.” Id. He therefore testifies that he believes that the screen- based system in a handheld golf apparatus was innovative and not obvious. Id.

We weigh this evidence and find it entitled to very little weight. First, the Vanden Heuvel device used unmarked keys, and we discredit the testimony that it could not be used outdoors. Furthermore, none of the technicians are identified, and have not testified in this proceeding, which greatly lessens the probative value of the evidence.

Accordingly, the evidence of record supports a conclusion that claim 8 is unpatentable over Palmer, Osamu, and Vanden Heuvel.

Claim 9

Claim 9 is also an independent method claim. The first step is a step of “providing a computer unit with a memory, a display, and data selection entry keys.” Ex. 1001, 18:34–35.

Palmer describes a computer having a display, entry keys, and a memory. Ex. 1005, 6, 9, 10; Pet. 27. Vanden Heuvel likewise describes a computer unit with a memory, display, and data selection entry keys. Ex. 1007, 9:5–26, Fig. 14; Pet. 27.

Claim 9 next requires a step of “storing a plurality of information screens of golf play information in the memory of the computer unit, the information screens including screen-dependent data input fields corresponding to the golf play information in each screen.” Ex. 1001, 18:37–41.

Palmer describes golf screen information including suggestions as to which club to use for a shot based on the range of personal data previously entered by the user; details regarding how far a user can repeatedly hit the golf ball for a given club, which data is entered into the microcomputer unit

via, e.g., the keypad. Palmer also can store and retrieve golf course information, and track shots during a game. Ex. 1005, 10–19; Pet. 28.

Claim 9 adds a step of “selectively displaying information screens on the display in a logical sequence of pre-game and game-interactive screens, the pre-game information screen prompting entry of data which defines parameters of a game to be played and a game-interactive screen on which data is recorded for the game.” Ex. 1001, 18:42–47.

Palmer describes a pre-game mode with data entry of information regarding distances a user can hit the golf ball for a given club repeatedly, and details about one or more golf courses. After such data entry, the device can keep scoring details for up to four players. Ex. 1005, 10, 17–19; Pet. 28.

Patent Owner challenges the finding that any reference describes “selectively displaying information screens . . . in a logical sequence of pre-game and game interactive screens.” PO Resp. 22–23. More specifically, the Patent Owner asserts Palmer’s distance entry is not an in game entry, and there is no disclosure of multiple screens being used for the entry of range information – much less a description of a logical sequence of screens. *Id.* at 23. Similarly, the “details about one or more golf courses” cited by the Petitioner are neither described as being presented on multiple screens nor of being presented in a logical sequence in coordination with game-interactive screens. *Id.*

We find this argument to be unconvincing when compared to the evidence of record. The initial data entry of the players’ identities, their handicaps, their ability to hit certain distances with clubs, par for each hole, and yardage all must occur prior to a game for the data to be useful. *See* Ex. 1012 ¶ 50; Pet. 28. Then in scoring mode, Palmer tracks the game in game-

interactive mode as the drives, chips, and putts are entered per player. Ex. 1012 ¶ 50; Pet. 28. This is logically and temporally organized.

Moreover, as noted by the Petitioner, logical organization of screens temporally would in any event be a common sense approach to a design task to one skilled in the art. Pet. Reply 14. We decline the inherent invitation of the Patent Owner to assume patentability might be conferred by organizing sequences logically because there exist other choices that one could randomly display screens or do so intentionally illogically.

Claim 9 next requires a step of “selecting data input fields on a displayed information screen.” Ex. 1001, 18:48–49.

Palmer and Osamu each describe a scorecard which includes data input fields on a displayed information screen. Ex. 1005, 18–19; Ex. 1006, 18–19. Vanden Heuvel discloses selecting data input fields on a displayed information screen. Ex. 1007, 9:5–26; Pet. 29.

Claim 9 also requires a step of “selecting from stored golf information corresponding to one or more chosen data input fields.” Ex. 1001, 18:50–51.

Palmer describes the storing and retrieval of scoring details for up to four players. Ex. 1005, 18. Osamu describes a similar entry and later display. Ex. 1006, 19; Pet. 29–30.

Finally, claim 9 recites the step of “storing selected golf information in the memory as statistical or factual reports for retrieval by the user after the game.” Ex. 1001, 18:52–54. Both Osamu and Palmer specifically describe post-game reports. Ex. 1006, 19–20; Ex. 1005, 19.

Accordingly, the evidence of record supports a conclusion that claim 9 is unpatentable as obvious over Palmer, Osamu, and Vanden Heuvel.

Claims 10 and 11

Claim 10 depends from claim 9, and recites that the information entered in the pre-game information screen “comprises golf play parameters defining an upcoming game, and the golf information entered in the game-interactive information screens comprises golf play data values defining a user’s actual performance within the golf play parameters of the game.” Ex. 1001, 18:55–61.

Claim 11 recites that the parameters are entered in pre-game mode and the play data is entered in game-interactive mode. *Id.* at 18:61–65.

Palmer describes entering pre-game parameters such as distances hit with a club, and details about golf courses. When entering into the game, scoring details for up to four players including the number of shots taken are recorded. Ex. 1005, 10, 17–18; Pet. 30.

Accordingly, the evidence of record supports a conclusion that claims 10 and 11 are unpatentable over Palmer, Osamu, and Vanden Heuvel.

Claim 14

Claim 14 differs from claim 8 in that it contains the additional element that the “game-interactive information screens comprise a first information screen with a first detail level of recording, and a second information screen with a second detail level of recording.” Ex. 1001, 19:59–62.

Petitioner has not provided an interpretation of this claim language. The Specification provides that there are screens set up for recording different levels of detail. Ex. 1001, 4:16–24, 4:36–45.

As to the first level of detail, Osamu describes the entry of hole number, location, and shot. Ex. 1006, 18; Pet. 34.

As to the second level of detail, Petitioner states that Osamu's second game-interactive screen:

Ex. 1006 at p. 19 [second detail level]: Scores input are all stored, which may be reviewed by displaying on the LCD panel 20 as desired.

See Ex. 1012 ¶¶ 48–50, 55, and 58–66.

Pet. 34 (emphasis omitted).

With reference to Professor Gutwin's Declaration, Petitioner states that the "first detail level of recording" is the scorecard screen, and the "second . . . detail level of recording" is the shot tracker screen. Ex. 1012 ¶ 55. Osamu allows the retrieval and review of at least a screen containing only scores. Ex. 1006, 19. Osamu also allows for the "shot tracking" entry of additional levels of detail to provide a route map for holes. *Id.*

Accordingly, the evidence of record supports a conclusion that claim 14 is unpatentable as obvious over the combination of Palmer, Osamu, and Vanden Heuvel.

Claim 18

Claim 18, the last challenged claim in this trial, has similar elements to claims 8 and 9 discussed above. It also contains the method step limitation of

providing a pre-game mode of data entry in which one or more pre-game information screens are displayed to prompt the entry of data which defines parameters of an upcoming game, and providing a choice of at least one of a plurality of game-interactive mode of operation representing different levels of data recording detail.

Ex. 1001, 21:21–27.

As to the first part of the step, Palmer describes a database to be used for club selection. Part of that data entered is the personal golfer data of past performance. Ex. 1005, 10. The performance level of a golfer in a game is a parameter of the game. Palmer also stores customized course information, which is likewise a game parameter. Ex. 1005, 17.

As to the second part of the step, we again note the Petitioner's case relies upon Professor Gutwin's Declaration, where he states that the "first detail level of recording" is the scorecard screen, and the "second . . . detail level of recording" is the shot tracker screen. Ex. 1012 ¶ 55. Osamu allows the retrieval and review of at least a screen containing only scores. Ex. 1006, 19. Osamu also allows the "shot tracking" screens that, as we found above, include differing levels of detail. *Id.*

Claim 18 additionally requires the method step of "entering the game-interactive mode during the game defined in the pre-game mode, and displaying a chosen game-interactive recording information screen for entry of game data as the game is played." Ex. 1001, 21:28–31.

Palmer describes the game interactive mode of keeping score details for players, as does Osamu. Ex. 1005, 18, Ex. 1006, 19. Osamu also describes a more detailed recording of location and carry distances as well as club identity. Ex. 1006, 18; Pet. 36.

Accordingly, the evidence of record supports a conclusion that claim 18 is unpatentable over Palmer, Osamu, and Vanden Heuvel.

vi. Dr. Gutwin

Patent Owner has asked the Board to give no weight to the testimony of Dr. Gutwin. PO Resp. 24. According to the Patent Owner, Dr. Gutwin contradicted his Declaration multiple times in his deposition, refused to

provide the basis for his opinions on multiple occasions, and undermined the IPR process by refusing to answer any but the most basic questions. *Id.*

As support for this assertion, the Patent Owner observes that in his Declaration, Dr. Gutwin stated that “in practice, one of ordinary skill would have viewed the ’566 patent as describing and claiming nothing more than a common handheld golf computer.” PO Resp. 25 (emphasis omitted) (citing 1012 ¶ 20). Patent Owner then asserts that in deposition, Dr. Gutwin “testified that “[t]he elements of the claims do not describe a golf computer” (149:22–24) and that “[t]he elements of the patent do not describe a golf computer.” *Id.* (emphasis omitted) (citing Ex. 2015, 149:9–10).

Moreover, the Patent Owner asserts that Dr. Gutwin at other times decided that the ’566 patent did address golf computers. We are pointed to Ex. 2015 “at 163:24–163:6 (testifying that “it’s certainly true that the ’566 describes a handheld device that’s used for making computations about some kind of game of golf”).” PO Resp. 25. Further, it is stated that “Still elsewhere in his deposition, Dr. Gutwin was wholly unsure whether the ’566 claims a golf computer. *See, e.g.*, Ex. 2015, 164:7–17 (answering the question “[Y]es or no, does it claim a handheld golf computer?” with the answer that “. . . it depends, I guess, on the elements and the preambles, and so we could look at that if you prefer.”).” PO Resp. 25.

We are not so perturbed by Dr. Gutwin’s answers at deposition as Patent Owner. Given that there was loose language used in the actual questioning; that the situation here where the description is not a precise literal match for the claims; and the careful parsing needed of legalese in claim language, we are more understanding of his caution, especially under the stress of a deposition. Certainly, a witness’s demeanor and apparent

evasion may be taken into account, but we are not pointed to actual persuasive instances of condemning demeanor or evasion.

As to other contradictions pointed to, such as whether it was Dr. Gutwin or his children who played a golf game, we agree it does go to the weight to be given to the particular testimony in question. But we decline the invitation to discard the testimony of Dr. Gutwin completely, based upon those items pointed out in the Patent Owner Response.

Nor are we particularly concerned with Dr. Gutwin's answer during his deposition as to how a "game" is defined. We have thoroughly reviewed the deposition transcript in question.

Dr. Gutwin has a point that games can be defined in different ways. Take, for example this colloquy:

Q. When you say, I'm going to go play a game of golf, what do you mean?

A. In different situations that could mean very different things. I could be implying that I'm going to a golf course to -- to walk around nine or 18 holes. I could mean that I'm going to mini golf or it could mean that I'm going to play a board game called golf, for all I know, so it's -- it's really open-ended.

Ex. 2015, 16:15–24.

Note also the following exchange:

Q. What does "pre-game" mean there? How are you interpreting that, or how are you constructing that?

MR. FISHER: Objection, form.

A. Well, so as I said, the word "game" is -- could mean many different things. And in general, prefixes like pre and post would imply a temporal relationship to another entity. And so if a game is a thing that happens in time, then a pre-game event is something that would happen before that game.

But as I said, that doesn't really nail down much about what exactly this pre-game phase is, because a game could be so broad.

Id. at 20:22–21:11.

Patent Owner states that:

[a] purported expert that cannot explain the meaning of the most basic words used in the both the '566 patent and his declaration simply lacks any credibility. It defies logic that the opinion of a person who could not even explain how he used the word "game" in his own sworn declaration, could be relied upon as credible evidence regarding what a person of skill in the art would know. A person of ordinary skill in the art – at least – would be able to explain what a game is.

PO Resp. 28 (emphasis omitted).

We think Patent Owner's argument here lacks some precision. The words Dr. Gutwin was being deposed on were contained in claims drafted by Patent Owner. Each claim, and its individual elements, have particular meanings, and it appears to us that Dr. Gutwin was being cautious, not necessarily evasive, in his response to the questioning.

One more example:

Q. What does "pre-game" mean to you as used in this claim?

MR. FISHER: Objection, form.

Q. Or what meaning did you place on "pre-game" for purposes of your opinion?

A. So as I've stated, the words "pre" and I believe they use "post" define the temporal relationship to another phase. And so if the pre-game phase and so the things that are occurring -- I guess some of these screens that involve a pre-game parameter recording is either related to or occurring before this other phase that involves the game itself.

Ex. 2015, 24:6–15.

The answer given by Dr. Gutwin seems reasonable to us.

We therefore decline the Patent Owner's invitation to ignore Dr. Gutwin's testimony.

VI. CONCLUSION

We conclude that Petitioner has prevailed and established by a preponderance of the evidence that claims 8–11, 14, and 18 are unpatentable under 35 U.S.C. § 103(a) as obvious over Palmer, Osamu, and Vanden Heuvel.

VII. ORDER

For the reasons given, it is

ORDERED that claims 8–11, 14, and 18 are unpatentable under 35 U.S.C. § 103(a) as obvious over Palmer, Osamu, and Vanden Heuvel; and

FURTHER ORDERED that parties to the proceeding seeking judicial review of this final written decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

Case IPR2014-00437

Patent 5,779,566

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